EVALUATION OF THE VITAL STATISTICS FUNCTION

of the

BUREAU OF MEDICINE & SURGERY

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Advisory Committee 1944

EVALUATION OF THE VITAL STATISTICS FUNCTION OF THE BUREAU OF MEDICINE AND SURGERY, U. S. NAVY

Prepared by

Advisory Committee on Vital Statistics to the Surgeon General, U. S. Navy

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January 25, 1944

The Surgeon General

U. S. Navy

Washington, D. C.

Sir:

I have the honor to transmit herewith the report of the Committee which you appointed to evaluate the vital statistics function of the Bureau of Medicine and Surgery of the U. S. Navy.

The Committee explored, through the activities of its individual members, the medical-statistical programs of the various divisions of the Bureau. The most important finding that came from this survey was the fact that the statistical activities are too scattered to be effective and are never brought together at any single focal point. This led the Committee to its first general recommendation, that is undoubtedly its most important one since the numerous special recommendations are for the most part dependent upon it. In broad terms, this recommendation proposes that the statistical function of the Bureau be reorganized and integrated under a man of recognized ability and professional standing, in order that full benefit may be derived from the mass of valuable information that is available.

In submitting the report, the Committee wishes to express its appreciation of the high degree of cooperation it encountered in every division of your Bureau. In particular, we desire to thank Captain Carter, Commander Emch, and Lieutenants Whitley, Remias and Guthrie. Lieutenant Guthrie's services as Secretary to the Committee were invaluable.

Respectfully submitted,

/s/ LOUIS I. DUBLIN

Louis I. Dublin, Chairman
Advisory Committee on Vital Statistics
to Surgeon General, U. S. Navy

INTRODUCTION

In response to a need felt in the Bureau of Medicine and Surgery for a reevaluation of the entire vital statistics function, there was formed an Advisory Committee on Vital Statistics to the Surgeon General, U. S. Navy. The purpose of this Committee was conceived to be:

(a) Review of adequacy of sources and methods of reporting vital statistics data from the field;

(b) Review of the adequacy of the tables and reports dealing in the vital statistics as processed in the Division of Preventive Medicine; and

(c) Evaluation of data available with regard to completeness, interpretation, and significance to the Navy, governmental agencies and interested professions and groups, with a view to making recommendations for their possible improvement and wider utilization.

In carrying out its function, the Committee studied the situation along the following lines of thought:

1. Aims of naval vital statistics;
2. Needs served by vital statistics;
3. Present program of statistics;
4. Evaluation of program in terms of needs and aims; and
5. Recommendations as indicated by this evaluation.

This sequence of thought, which led the Committee to its recommendations, has been maintained in the presentation.

The aims of naval vital statistics and the needs served by them have been stated in the first and second sections of the report. A survey of the statistical work now undertaken by the Bureau is presented in the third

section under the three headings, organization, sources and collection of raw data, and statistical processing of data. In terms of the understanding of present operations derived from this survey, the report proceeds in section 4 to an evaluation of the Bureau's statistical program as to the aims and needs of naval vital statistics. This is first given in an overall picture, and then in concrete detail. This evaluation leads directly to the recommendations of the Committee, which are presented in the last section of the report.

1. AIMS OF NAVAL VITAL STATISTICS

The general aims of naval vital statistics may be summarized as follows:

(a) To assist the Medical Department of the Navy in its basic function of protecting and promoting the health of Navy personnel and providing medical care for its sick and injured;

(b) To provide reliable information concerning health conditions in the Navy for the information of the public, an obligation in public relations of special importance in time of war when the Navy draws so heavily upon the youth of the nation;

(c) To provide a statistical background necessary in the development of special studies and investigations of medical problems of the Navy; and

(d) To contribute material for the general advancement of medical knowledge, especially in the field of naval medicine.

In achieving these objectives, the statistical functions of the Bureau are:

(a) To provide quantitative knowledge of the incidence, nature and distribution of illness and disability and of other factors affecting the health of Navy personnel;

(b) To assemble statistical data required for the efficient operation of medical facilities and services and distribution of medical personnel;

(c) To prepare such indices as may be required in the planning and forecasting of medical needs in the Navy under various conditions of war and peace; and

(d) To provide systematically for the dissemination of this information to the various units of the Navy, according to their requirements.

2. NEEDS SERVED BY STATISTICS

In any organization, statistical facts are required for two distinct purposes, (a) operations and (b) planning. For these purposes the entire Naval Establishment, as well as the Bureau of Medicine and Surgery, has constant need of statistical information on the frequency of illness and injury, noneffective ratios, attrition because of disease or injury, patients under care, and utilization of medical facilities. Other types of data are also required, but in any specific case the kind of quantitative information and the form in which it should be presented, can only be determined by an analysis of the problem under investigation. The first statistical need of any unit of the Navy is, therefore, the opportunity of consulting with a professional statistical staff for the purpose of making a decision as to the type of statistical information that should be collected to meet the requirements of the unit.

From the operational point of view the Division of Preventive Medicine has perhaps the most direct need for medical statistics of any unit in the Navy. The fact that it has responsibility for the control of communicable diseases from which over one-half the disability of the Navy arises, calls for knowledge of how many, over what period of time, and in what areas, cases of these diseases are occurring. This information must be related to the size of the exposed population, i.e., strength, in order that its significance may be assessed. Reports presenting this information must be available at regular intervals and should be as current as circumstances permit. Problems of prevention in other fields than that of communicable diseases call for similar types of information.

All of the divisions of the Bureau will carry out the operational functions more efficiently if they receive regularly the statistical facts upon which their decisions can be based. A more detailed list of the statistical needs of the various divisions is given in Appendix I.

Since planning is based largely upon past experience, which is likely to be expressed in statistical terms, the Division of Planning will be an important consumer of naval vital statistics. In connection with current planning, its needs are not so different from those of the operational divisions. In the case of planning for future operations, however, new elements are introduced, since prediction and forecasting enter more extensively into such calculations. The data here must be more detailed and specific and should, when possible, be based upon the careful analysis of the final statistics of similar operations in the past. For this reason there must be at all times close liaison between the planning and the statistical divisions so that in the operations of the statistical division the needs of planning can be given full consideration. The statistical section should also be prepared to furnish technical assistance in the determination of estimates and forecasts involved in the solution of problems dealing with long-range planning.

In addition to the requirements of the separate divisions, the Surgeon General has need of regular summary reports of sickness rates by operational areas. Similar summaries of sick days, disease trends, casualties, hospital facilities and their utilization should be laid before him at frequent intervals. The more detailed figures that he will need in connection with specific problems will usually be contained in reports that will be presented to him by the operational and planning divisions.

3. PRESENT STATUS OF STATISTICS

A. Organization.

The Vital Statistics Section of the Division of Preventive Medicine handles only a portion of the statistical work of the Bureau of Medicine and Surgery. Before reviewing its work, it will be well therefore to consider the statistical operations of the other sections and divisions.

The Administration Section of the Division of Preventive Medicine has charge of the statistical processing of the Weekly Dispatch Report, Monthly Communicable Disease Report, Monthly and Annual Sanitary Reports. Although these reports relate to communicable diseases, epidemiology and sanitation, the contents of the reports, with the exception of the Monthly Sanitary Report, are largely statistical. Of a total personnel of fifteen in the Section, twelve carry out operations essentially statistical in character.

The Division of Physical Qualifications and Medical Records is the registration office for the health records of all naval personnel. The Division prepares on a current basis certain cumulative tabulations or recapitulations relating to: (a) discharges by reason of disability which existed prior to enlistment and not aggravated by service, (b) dental discharges, and (c) recruits discharged, showing name, place of enlistment, dates of enlistment and survey, place of survey, and diagnosis. Statistics are also compiled pertaining to medical surveys and discharges according to recruiting stations.

The Neuropsychiatric Branch prepares statistical reports reflecting the number of psychiatric cases reported in the Navy and Marine Corps. These reports are based on the tabulations of the above divisions and

special tabulations of the Vital Statistics Section. This Branch also receives and processes special monthly reports of neuropsychiatric cases admitted to naval hospitals.

The Division of Aviation Medicine has developed a considerable statistical organization for handling many of its special problems which involve statistical treatment or analysis. Closely allied to the statistical work of this Division is some of the work of the Division of Research. Although the general responsibility of the Division of Research is the allocation of research projects, there is a trend toward the development of routine statistical studies, especially in the study of aviation accidents.

Other divisions have need of statistical services in planning and analysis of their work but maintain no statistical unit. On occasion when technical problems in statistics arise, the solution may be sought in any one of three divisions within the Bureau. All divisions call upon the Vital Statistics Section for tabulation service when machine tabulation is required or considered desirable.

It is, however, the Vital Statistics Section* of the Division of Preventive Medicine that is charged with the major statistical task of the Bureau. In personnel, it is the second largest unit in the Bureau of Medicine and Surgery, containing at the present time 132 individuals on service and civilian status. The principal function of the Section is the processing of the Individual Statistical Report of Patients, which is the basis of the Navy's morbidity statistics. The Section is also in charge of the preparation of reports and statistics on deaths, casualties, invalidings from service, hospital sick, hospital facilities and utilization, and industrial

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*See Appendix II for present organization.

accidents and injuries occurring to civilian personnel of naval stations. Most of the tabulations for the Annual Report are prepared in this Section. It maintains a number of files, particularly of smooth F reports, sick officers and casualties, which is primarily a registration and not a statistical function. It also maintains a reference file by name of individual morbidity reports.

The principal statistical activities of the Bureau of Medicine and Surgery are found, then, in the Administration Section and the Vital Statistics Section of the Division of Preventive Medicine. The remainder of the discussion of the present status of statistics in the Bureau will therefore be limited largely to the activities of these two Sections.

B. Sources and Collection of Raw Data.

Medical statistics of the Bureau of Medicine and Surgery pertain to two types of quantitative data: (a) statistics dealing with illness, disability, casualties, invalidings from service, death, and similar events, and (b) statistics dealing with treatment, operations, dentistry, bed occupancy and other measures of medical facilities.

a) Origin of F Reports.

The earliest report of illness or injury in the Navy was Form F - Abstract of Patients. This report was submitted originally as an annual abstract of the entries of individual cases of illness made in the "Medical Journal" which was maintained by every medical officer of a ship. The instructions to medical officers for 1873 describe this report and also a quarterly "Report of Sick," Form K, which was a statistical tabulation of these cases by diagnosis. Beginning with 1911, the entries in the Medical Journal were discontinued and an individual record, known as the rough F,

was provided as the base for the quarterly report of sick and for the preparation of smooth F. Six years later, the smooth F was simplified and copies of the rough F were sent with the smooth F to the Bureau. At a still later date, the statistical "Report of Sick," Form K, except for the statistics on dental work, became the statistical portion of the present smooth F. Form K in this manner became the present "Report of Dental Operations and Treatments." Through this evolution the "Form F card - Individual Statistical Report of Patient" and "Form F - Abstract of Patients" became the two basic reports of morbidity in the Navy.

b) Present Use of F Reports.

The individual report, Form F card, is opened in duplicate each time a person is taken up on the sick list. Both cards are retained by the medical activity until some disposition of the case is made. Disposition is considered as occurring whenever the status of the patient changes. A change of status may be for medical reasons such as alteration in diagnosis or onset of complications including sequelae, or it may be for administrative reasons related to transfer of patient to another ship or station, return to duty, death, desertion, or invaliding from service. Therefore, a case, while remaining on the sick list may be disposed of only to be taken up immediately for a new condition, or by transfer to another activity, and may have several dispositions. The Form F card, however, is closed each time a disposition is made, and the duplicate, known as the Fa card, is sent to the Bureau. The size and paper stock of this duplicate is that of punch cards for mechanical tabulation. The original or rough F card is kept by the reporting unit for use in the preparation of the monthly report "Form F - Abstract of Patients."

This monthly report which is known as the "Smooth F" lists all personnel in active service disposed of on the sick list during the month. The report

requires the average strength of the naval units covered by the report. There follows then a tabulation of all Fa cards which have been sent to the Bureau during the month, showing the manner of taking up and of disposition, and the total number of sick days as indicated by the information on the rough F. The smooth F is required of all ships and stations having a medical activity, i.e., a member of the Medical Department attached to it. After receipt in the Bureau, these reports are bound from time to time to form a permanent record of illness and disability for each naval activity reporting.

In order to understand fully the nature of morbidity statistics of the Navy, it is necessary to describe briefly (i) the methods of taking up and disposing of patients on the sick list and (ii) the official "Nomenclature of Diagnostic Titles" used in reporting diseases and injuries.

(i) Methods for taking up and disposing of patients on sick list.

Morbidity in the Navy is influenced considerably by a legalistic interpretation of "new admissions." These are defined as those "disabilities which have developed or been incurred since entry into the service and which bear no relation to a disability for which the patient has been previously taken up on the sick list." Such admissions are designated as "Admitted" or by the symbol "A." All first admissions on account of complications or sequelae, including final disabilities, are taken up as "Admitted Contributory Disability," symbol "ACD." All other admissions

to the sick list are reported as "Readmitted," symbol "RA."* Included in this group are disabilities which are considered to have existed prior to entrance into service even though taken up on the sick list for the first time. Such cases carry a special designation, "EPTE".

Methods for reporting the disposition of patients on the sick list are self-explanatory. These with their symbols are: Duty, "D"; Diagnosis changed, "C"; Died, "DD"; Invalided from service, "IS"; Ran (deserted), "RAN"; and Transferred, "T".

(ii) Nomenclature of Diagnostic Titles.

The Navy uses a special nomenclature of diseases and injuries which has been compiled to meet its needs and is published as Appendix A of the Manual of the Medical Department. Diseases and injuries are grouped into 27 anatomical, epidemiological, and miscellaneous classes which, it is stated, will "group diseases and injuries for statistical purposes".

Within each class, the diagnostic titles, as a rule, are arranged in alphabetical sequence. Each title is assigned a diagnostic number which is used for identification and coding purposes. All but three of the classes have a residuary title, "other diseases of this class," which is used for "definite clinical entities having generally accepted titles not

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* Admissions to the sick list that are reported as "RA" include:
(a) Patients with continuing or recurring conditions;
(b) Patients with disabilities existing prior to entry into service (described in text);
(c) Patients received from transfer;
(d) Patients first taken up with "Diagnosis undetermined" whose diagnosis is established;
(e) Patients whose diagnosis is changed because of error;
(f) Patients with injuries of lesser gravity than the one reported as "A" that are incurred at the same time and require reporting;
(g) Patients with a disability incurred while in desertion status; and
(h) Patients returning from sick leave.

included in this nomenclature." The "generally accepted title" is to be specified after the nomenclature title, "other diseases of this class" when reporting.

The number of titles in the nomenclature is increased from time to time by the addition of new diagnostic titles at the end of each class. Changes, usually after consultation with medical officers, are initiated by the Vital Statistics Section when a specified title appears with increasing frequency in the residuary title of a class. At other times, medical officers suggest additional titles. However, there are no criteria for deciding as to the inclusion of new titles. Notices of changes or additions to the nomenclature are published as "Circular Letter Y."

The Bureau also issues a "Nomenclature of Surgical Operations" and a "Nomenclature of Nature and Causes of Violence" which are used in reporting these conditions. Medical officers and other members of the Medical Department are required to use these three nomenclatures in all reports except the daily sick report and in official communications including reports of medical surveys.

c) Casualties.

The primary report of battle casualties is one submitted by the medical officer as soon as possible after a battle. The report is received in the Division of Planning, and held until released by Naval Operations, at which time it is given to the Vital Statistics Section. The report is in letter form and may furnish only the names with notations as to condition - killed, seriously wounded, or wounded - or it may contain name, rank or rate, diagnosis, prognosis, and disposition. All such injuries are designated with the Key Letter "K". The Vital Statistics Section also receives,

apparently through informal arrangements, a report from the Bureau of Naval Personnel, which is a copy of their casualty record. These cards contain complete personal particulars of the individual and the name and address of the next of kin who was notified of the casualty. The definitions of casualty in the Bureau of Naval Personnel and in the Bureau of Medicine and Surgery are apparently somewhat different. Any illness or injury requiring evacuation is a casualty under the procedures of the Bureau of Naval Personnel. Only injuries having the Key Letter "K", i.e., result of enemy action, are designated as casualties by the Bureau of Medicine and Surgery. Later, but not in all instances, an Fa card is forwarded to the Bureau and, of course, additional Fa cards will be received as the patient is evacuated and transferred.

These casualty reports are routed to a special unit in the Vital Statistics Section. In addition to special processing for statistical information, the Section maintains an excellent and efficient file of all such cases. This file is cumulative and as additional information is received concerning the individual it is added to the original record. The file is used frequently in order to reply to official requests concerning individuals.

d) Other Reports of Morbidity.

Periodic reports pertaining primarily to the reporting of communicable diseases are received and processed by the Administration Section of the Division of Preventive Medicine. The most frequent is the Weekly Dispatch Report, which is received each week by air mail from all stations in continental United States. The report in dispatch form contains data on average strength, admissions for selected communicable diseases, and total admissions.

The most important report is the monthly Communicable Disease Report, which is received from all ships, stations, and other naval establishments. When the commanding officer deems it necessary for security reasons, the report is sent as a confidential communication. In these instances, the report is received by the Planning Division and is forwarded to the Division of Preventive Medicine in accordance with the usual procedures for confidential documents. The Monthly Communicable Disease Report contains data on the average strength, new admissions and ACD for all communicable diseases, Classes VIII to XIII of the official Navy Nomenclature. In addition, the total admissions and ACD's for all diseases and injuries are reported.

A special Epidemiological Report is submitted by the senior medical officer of a ship or shore station whenever any communicable disease occurs in epidemic form. A report by radio or telegram is required when a disease like smallpox, plague, yellow fever, typhus fever or cholera occurs.

Another periodic report is the monthly Sanitary Report, for which there are no prescribed instructions. The content varies widely from a short narrative statement of only a page or two with no statistical information to a very bulky report containing all the statistics called for in the Annual Sanitary Report. The latter reports are received often a month after those from stations sending brief narrative reports. The monthly Sanitary Report from ships is not obligatory and is prepared in accordance with fleet orders.

An Annual Sanitary Report is prepared by all ships and shore stations. It consists of statistical tabulations for both officers and enlisted men of illness and injuries, including individual diagnoses of communicable diseases, classified according to admission, admitted contributory disability, death, and sick days. They also contain a table giving in considerable detail, information on vaccinations, revaccinations, and antityphoid inoculations.

In the case of ships, there is a summary of the movements of the ship during the period covered by the report. This summary gives the dates of arrival and departure for each port and the days in port and at sea. In addition to the statistical tables, the Manual of the Medical Department calls for numerous narrative paragraphs covering a number of subjects pertaining to the health conditions of the personnel and of the activity. These reports are received by the Administration Section of the Division of Preventive Medicine.

Other reports dealing with illness and disability submitted to the Bureau of Medicine and Surgery are Certificate of Death, Report of Medical Survey, and Report of Industrial Disability, Shore Establishments. The Report of Medical Survey is submitted after every medical survey but only those which recommend invaliding from service are used statistically. The Report of Industrial Disability refers to accidents among civilian personnel of shore stations.

e) Reports of Medical Facilities.

There are several summary reports received periodically relating to treatments, operations, and hospital facilities. The most important of these is the Weekly Hospital Report of Patients, which contains patient counts, bed capacity, and classification of Veteran Administration Patients Remaining. This report includes a listing of all admissions and discharges of officer personnel, and is used by the Vital Statistics Section in maintaining a reference file of officer sick. Because of insufficient information on the present report, the Vital Statistics Section has been receiving copies of Form 10 - Daily Personnel Report of Hospitals. The Bureau also receives monthly, Form K - Report of Dental Operations and

Treatment, and Form A - Report of Cases of Syphilis and Number of Arsenical Treatments; and quarterly, Form P - Report of Surgical Operations and Diagnostic Examinations. The data on many of these latter reports are utilized primarily in the preparation of the Annual Report of the Surgeon General.

See Appendix IV for tabular comparison of certain important field reports.

C. Statistical Processing of Data.

a) General Statement.

The Committee approached its review of operations which are used in processing the statistical material received from ships and shore stations from the viewpoint of evaluation of their general soundness and adequacy as statistical methods. Whether or not a given procedure is carried out efficiently is a problem more largely of management. More important to the purpose of the present survey is the worth-whileness of the procedures and their adaptability for achieving the statistical objectives which have been set.

The detailed study of procedures is confined to those of the Administration and Vital Statistics Sections of the Division of Preventive Medicine, since it is here that the principal statistical operations of the Bureau are found.

b) Administration Section, Division of Preventive Medicine.

As has been indicated, the Administration Section of the Division of Preventive Medicine processes periodic reports relating to communicable disease, epidemiology, and sanitation. The Weekly Dispatch Report is summarized in the form of a rough and smooth Weekly Statistical Report. The rough copy, which is kept for reference, contains number of cases and rates

of communicable diseases for each station, and totals for each Naval District and for all shore stations in Continental United States. The smooth report contains rates only, and is issued as a mimeographed report of some thirty pages of legal size. It has a restricted distribution.

The Monthly Communicable Disease Report is the main source of epidemiological information received by the Bureau. The report of each ship and station, including foreign confidential bases, is posted to a special epidemiological record. The reports from confidential bases are identifiable only by code in many instances. The major subdivisions of the file of these records are: Naval Districts, Forces Afloat, Fleet Marine Forces, Construction Battalions, Outlying and Confidential Bases. Recently, plans have been made to assign a special code to each card, which will permit the regrouping of the cards by operational areas. Summary cards are kept for each major subdivision, and for the Navy as a whole. The data for any month are usually available within two months after its close.

The Administration Section also abstracts and consolidates the statistical data carried in the Annual Sanitary Reports for reference purposes, and in some instances for the Annual Report of the Surgeon General. The statistics on arsenical treatments are worked up quarterly into reports for the Naval Medical Bulletin, and annually for the Annual Report.

c) Vital Statistics Section, Division of Preventive Medicine.

(i) Routine processing of Fa card.

The major statistical task* of the Bureau is the processing of the individual records of morbidity. The Vital Statistics Section is charged with this responsibility. The basic source of these statistics is

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* See Appendix III for personnel and work load.

the duplicate copy of "Form F card - Individual Statistical Report of Patient" which is known as the Fa card.

The Fa card is mailed to the Bureau supposedly immediately upon the disposal of the case, but frequently batches of cards are received by the Bureau, indicating that they have been held for considerable time before transmission. For overseas stations and ships this procedure will occasionally be necessary. At present, 5000 to 6000 cards are received daily, and it is estimated that the number of Fa cards to be expected each month will average between 8 and 10 per cent of the strength of the Navy.

Only 40 per cent of the Fa cards received represent completed cases of illness or disability. The other 60 per cent consist of multiple cards which must be matched at some later time before the complete case is ready for final processing.

Upon receipt, the Fa cards are sorted by hand into the following eleven groups: (1) casualties, (2) Waves, (3) foreign stations, (4) communicable diseases, (5) venereal diseases, (6) mental cases, (7) Nature No. 1, (8) Nature No. 2 and Nature No. 3, (9) invalided from service, (10) deaths, and (11) all others. The last group are Fa cards for Non-Navy personnel, in particular seamen of foreign navies and more recently personnel of our own army. Nature No. 1 cards are for cases of disability in which the patient was admitted, treated, and returned to duty without incident or, in other words, cards for complete cases. Nature No. 2 cards are for incomplete cases, since the disposition on the card indicates a change but not final disposition of the case. Nature No. 3 cards indicate a final disposition of the case, for which a previous Fa card had been sent to the Bureau. The purpose of the above sorting is in part to permit the preparation of special daily and monthly reports in case of certain of the above groups, and in

part to segregate the cards into groups convenient for processing as now carried out.

In brief, the special tabulations for the individual groups are made by hand or from tentative punched cards. Frequently a particular record will have to be handled on successive days in order to include it in all pertinent categories. Later, all cards are thrown into their appropriate Nature for routine processing. The processing of Nature No. 1 cards is a straight editing and coding operation, followed by punching of the Fa card for name, method of taking up and disposition, and then by the punching of the statistical punch card, known as the FP card.

The handling of Nature No. 2 and Nature No. 3 cards is more complicated. These cards must first receive preliminary coding for name, method of taking up, and disposition, following which the Fa card itself is punched, verified and then filed by Nature according to name. Periodically the two files are merged and the cards matched mechanically according to name. The matched cards are then sent to the editing unit, which reviews the cards to determine if the matched cards form a continuous and complete report of a case of illness. If a complete case, the data are summarized on one or more cards depending upon the number of diagnoses involved. The remaining cards in the set are canceled and returned to the file. The noncanceled cards then go to the coding unit for final coding.

The final coding consists of putting numerical codes in designated boxes provided on the left side of the Fa card. For certain diagnosis titles, special codes are used for anatomical parts and characteristics. There are not sufficient numbers of code boxes for all 80 columns of the punch cards, so certain items have to be coded elsewhere on the card. Upon the completion and verification of the coding, the cards are ready for the punching of the

statistical punch card, namely the FP card.

(ii) Special processing of Fa cards.

The sorting of Fa cards into the eleven groups described above is in part to permit the special processing of each of these groups. Fa cards for casualties, that is those for injuries caused by enemy action, are segregated so that they may be routed to the casualty unit. In most cases a tentative Fa, called the source record, has already been set up from the casualty report. The regular punch card, FP card, is made from the source report and if new information is received on the Fa card, a new punch card is made so that at all times the punch cards for casualties contain the latest data available.

Fa cards for foreign stations and for communicable diseases are segregated so that hand tabulations can be made daily of admissions from communicable diseases. A daily report of communicable diseases occurring at foreign stations is prepared for the Epidemiology Section. The cases included in this report do not represent those occurring within any stated time period since the tabulation is based on records which refer to dispositions and not admissions. The cumulative tabulation of all communicable diseases is kept for reference only.

The Fa cards for admissions from venereal diseases and mental cases are cumulated for a month period and then processed to prepare monthly reports. The report on venereal diseases relates to place of exposure. The tabulation for each month shows the figures for the current month and cumulative totals for the months to date during the year. The tables are made up from machine slips which list the number of exposures by area for each ship or station. The consolidation of these data into the summary tables

of the monthly report is time consuming. The preparation of the monthly report of mental cases is likewise unnecessarily involved. The report consists of monthly and cumulative tables and the tables of previous months are amended to include additional cases which have come in since the previous report was submitted.

(iii) Processing of records of invalidings from service (IS).

When a member of the Navy's active personnel is discharged from the service because of physical disability, the action is taken on the basis of findings of a medical survey conducted by a special Board of Medical Officers appointed for this purpose. The findings of this Board are reported on Form M - Report of Medical Survey, which is forwarded in quadruplicate to the Bureau of Medicine and Surgery for approval. After this action is taken, one of the copies is routed to the Vital Statistics Section for statistical tabulation.

In addition to the Report of Medical Survey, the Section receives in the course of time a report of the invalidings from service as the method of final disposition from the sick list through the submission of the regular Fa card - Individual Statistical Report of Patient. In many instances the Section will have already one or more Fa cards which it is holding until the illness is terminated. The procedure for processing Reports of Medical Survey calls for the preparation of a tentative Fa card from the Report of Medical Survey upon receipt. At the same time a temporary punch card is made as a control in the compilation of a monthly report. The tentative Fa card is held until matched with the corresponding Fa card received from the field. When the two cards are finally matched, both are coded and a punch card is punched from each. The punch card prepared from the field Fa card

is the regular FP punch card and is tabulated with them. The punch card developed from the tentative Fa contains such data as secondary diagnosis, character and part, and date of disposition, and is known as the tentative FP card. Those for the current month are used in the preparation of a monthly report on invalidings from service.

Since the matching of the tentative and field Fa cards may be delayed due to the failure of the latter to come in promptly, the temporary FP card is matched each month with the tentative FP before the monthly tabulation is made up. This monthly report is therefore developed from the tentative FP and the unmatched temporary FP cards.

(iv) Processing of certificate of death.

The official certificate of death is routed to the Vital Statistics Section for statistical tabulation. As in the case of reports of invalidings from service, the data are used to supplement the information received on the regular Fa card. A tentative Fa card is made up from the certificate of death and held until matched with the Fa card from the field. Both records are then coded. The field Fa card is coded and processed the same as regular Fa cards. The tentative Fa card is coded with the primary and secondary causes of death. While the classification of cause of death is that of the Navy's Nomenclature, the selection of the primary cause is made by reference to the "Manual of Joint Causes of Death" employed by the United States Bureau of the Census. The tentative Fa card which carries the primary and secondary cause of death is used to punch a special set of FP cards. While the items on the tentative Fa card are now somewhat different from those on the regular Fa card, the same punch card is used. The punch operators omit certain fields of the regular FP card and

substitute in their places the primary and secondary causes of death.

D. Routine Analysis and Summary Reports.

Until the present war emergency, the preparation of the annual "Statistics of Diseases and Injuries in the United States Navy," which forms the third and published portion of the "Annual Report of the Surgeon General, U. S. Navy," dominated the statistical work of the Administration and Vital Statistics Sections of the Division of Preventive Medicine. Since the expansion of the Navy, the number of requests for special tabulations has greatly increased and as a result there have been inaugurated several periodic reports for special purposes. These reports, however, have been introduced as specific requests were made, with little organization or coordination as to the purposes served.

The Administration Section of the Division of Preventive Medicine issues a Weekly Statistical Report of thirty pages which is based on the Weekly Dispatch Report and contains communicable disease rates for each station in continental United States. The only routine report based on the Monthly Communicable Disease Report is one dealing with venereal disease rates. Upon request, similar reports for other communicable diseases are prepared. The file of cards of cases of selected communicable diseases for each ship and station form a very valuable epidemiological record but these data are not summarized into any regular report for the information of the Bureau.

The Vital Statistics Section prepares periodic reports covering some twelve subjects. Two of these have been inaugurated very recently; namely, a monthly report of evacuees and a weekly report of medical facilities for naval dispensaries similar to the Weekly Summary of Patients and Accommoda-

tions in naval hospitals. There is no general overall report issued by the Section on a periodic basis except the annual report. Many of the reports consist of numerous tables, running as high as ten to fourteen in number, some of which are intended only to bring the contents of previous tables up to date. Because many of these tables are based on Fa cards the time period covered by the report is indefinite and the proportion of the Navy personnel covered is rarely known. The contents of many of the tables are presented in excessive detail and therefore must be abstracted by the operating division receiving the report before the data can be used. The accompanying table lists the periodic reports issued by the Vital Statistics Section. In Appendix V a sample of each table is included for the record. The demand for these tables, the preparation of which represents a considerable expenditure of manpower, is clear evidence of a growing need for current statistical facts upon which to base operations and planning.

Basically, however, the main task of the Vital Statistics Section remains the preparation of the tables for the Annual Report. This report for the calendar year 1940 consists of 117 pages of text with a number of summary tables and 143 pages of detailed statistical tables. These latter consist of seven main tables and three supplementary ones. The contents of both the tables in the text and the detailed tables are, for the most part, alphabetical in arrangement. In consequence the data are frequently not organized in any logical or classified manner which would assist the user to comprehend their significance. The text of the report for the most part only enumerates the principal facts contained in the summary tables.

List of Periodic Reports Prepared by Vital Statistics Section

Subject of Report	Source of Data	Period	Nature of Tables in Report
Admissions from communicable diseases from foreign stations	Fa cards	Daily	One table, in extensive detail.
Admissions from communicable diseases, all ships and stations.	Fa cards	Daily	Cumulative table, for office use only.
Summary of patients and accommodations in naval hospitals	Weekly Hospital Report of Patients	Weekly	Summary table, alphabetically arranged
Summary of patients and accommodations at naval dispensaries	Weekly Report from dispensaries	Weekly	Summary table.
Venereal diseases cases by place of exposure	Fa cards	Monthly	3 tables, with monthly and cumulative figures. Total of 45 pages.
Mental diseases	Fa cards	Monthly	5 tables, both monthly and cumulative. Minimum of 14 pages plus amended reports for previous months.
Psychiatric discharges of recruits	Weekly Report from Recruiting Stations	Monthly	5 tables.
Industrial disability, civilian employees	Report of Industrial Disability	Monthly	
Invalidings from service	Tentative FP cards made from Report of Medical Survey.	Monthly	1 table prepared for War Man-Power Commission.
Deaths	Tentative FP cards made from Report of Certificate of Death	Monthly	1 table prepared for Veterans' Administration.
Evacuees	Evacuees Report from continental naval hospitals	Monthly	6 tables.
Aviation accidents		Quarterly	3 tables.
Casualties	Casualty List and Fa cards	Quarterly or on call	14 tables.

4. EVALUATION OF STATISTICAL PROGRAM IN TERMS OF NEEDS

A. General.

There is no question that the records and reports which are available or might become available in the various operations of the Bureau of Medicine and Surgery offer a wide range of opportunities and values. This veritable gold mine of information, if properly compiled and analyzed, should serve for the better administration of the Navy as a whole and, more particularly, the administration of the Bureau of Medicine and Surgery. The records, moreover, should assist the Navy in its responsibility to the fighting forces and to the public at large, and finally should serve to increase knowledge in the field of medical sciences, especially naval medicine.

The Committee's examination of the uses and output of statistics indicates that these opportunities are being overlooked for the most part. The Bureau is utilizing its statistical material to only a limited extent. But two periodic reports of a general character are issued, the Weekly Statistical Report covering communicable disease incidence for shore stations in Continental United States, and the Weekly Summary of Patients and Accommodations in Naval Hospitals. That these are not sufficient to meet the needs of the Navy in the face of its rapidly expanding problems is shown by the increasing demand for special reports and tabulations. These special tabulations, however, are not really fulfilling their function. The few reports there are serving special interests, only begin to tap the statistical resources available, and fail to present an adequate analysis of the material, due to the fact that they are not organized sufficiently about the problem they should elucidate. The evidence therefore appears clear that the

statistical program is not meeting the needs of the Bureau satisfactorily.

The fundamental deficiencies of the Medical Department's statistical program arise from the lack of any single focal point within the Bureau for heading up its statistical activities and interests and from a lack of professional approach to the statistical problems of the Bureau.

It is true, the Vital Statistics Section of the Division of Preventive Medicine handles a large segment of the Bureau's statistical work but as has already been indicated other sections and divisions have definite statistical functions. This dispersion of the statistical work of the Bureau leads to some duplication of effort. More serious, however, is the lack of coordination in the statistical efforts, with the result that the output does not provide adequate statistical bases for operations. There is no single source in the Bureau for statistical information. The Vital Statistics Section, in consequence, is not turned to as often as it should be for statistical information or service; on the other hand, when it is asked to furnish certain data, it is often not in a position to do so.

The Vital Statistics Section is further handicapped by having too small a professional and technical staff. Only the two commissioned officers assigned to the Section have professional training or experience in modern statistical methods. One of these is burdened with administrative details as Head of the Section. This leaves only one professionally trained individual assigned to the technical aspects of the work. There is therefore no opportunity for organized planning of procedures and analysis. In fact, until the appointment of the second officer mentioned above, all the technical procedures were left to workers in clerical rather than professional grades. With such an organization, the procedures and instructions for the actual processing of the data tend to emphasize clerical accuracy and

refinement to the neglect of precautions required by a common-sense approach to statistical requirements involved. There is no real conception on the part of the staff as a whole that the basic function of statistics is the organization of mass data by means of classification and summarization in order to comprehend their meanings.

The greatest need of the statistical program of the Bureau is to place it on a sound professional and organizational base. With this accomplished, technical changes which would naturally follow a new orientation of the functions of statistics in the Bureau, would rectify other deficiencies that may now exist.

Certain methods and procedures which are employed, however, have definitely contributed to the failure of the Bureau to secure full returns from its vital statistics. The statistical activities of the Bureau will therefore be discussed in terms of these.

B. Specific.

a) Collection of Raw Data.

The origin of statistics in an operating agency such as the Bureau of Medicine and Surgery is either in primary records of individual events or in summary reports presenting tabulated frequencies of these events during a stated period of time for a given organization. In most cases, primary reports do not arise for statistical uses but originate for some other purpose, legal or administrative. Such records contain data on characteristics of the individual, i.e., age, race, length of service, rank or rate, and other variables, and are essential to any detailed analysis of disease phenomena. Summary reports furnish information on the frequency of these events during a given period of time or at a moment of time in a definite

population group or command, together with statistical facts concerning the organization itself, such as strength and location. Summary reports are important in keeping operational divisions informed of conditions in the field and as a link between individual records and the organization within which they originate.

At times in the collection of individual records the number involved is so great as to handicap their statistical use. The processing alone becomes so cumbersome that it not only is very expensive but it also has the effect of delaying unduly the output of the reports. In such situations resort should be had to sampling procedures. These may be applied at the origin of the documents with the result that the collection problem is lightened. Or if the individual records are needed in the total for reference purposes, it is often possible to apply sampling at some stage of the record processing. If put into practice at either of these points it will result in economy of operation and in the broadening of the statistical results through making possible a wider variety of facts on the sample than would be possible on the entire set of records.

The statistical information, which the Bureau of Medicine and Surgery requires from the field, can be classified under two general heads - (a) data on morbidity or other disability and (b) data on medical facilities. The purposes for which these data are required have been stated already in terms of the specific aims of statistics in the Bureau.

The principal primary reports of the Bureau are the Fa card for individual reports of illness and disability, Report of Medical Survey for reports of invalidings from service, Certificate of Death, and Report of Industrial Disability. The first three furnish statistical data on some phase of morbidity in service personnel. The Fa card arises as a statistical report. The

other two records however are documents that arise not as a statistical record but as administrative and legal documents. The Report of Industrial Disability is a primary statistical record designed to furnish information on occupational accidents among civilian employees of shore establishments.

The largest volume of these primary reports received by the Bureau is the Fa cards or morbidity reports. These records illustrate well the necessity for periodic review of all reports to determine whether the purpose of reporting, form of report, and frequency of reporting are adequate to achieve the objectives for which the report was inaugurated. Although a case is not tabulated until final disposition, except for incomplete cases at the close of the calendar year, the present system requires multiple cards to be forwarded for over one-third of the cases. In fact, 60 per cent of the Fa cards received in the Bureau relate to incomplete cases. Information on only a portion of these multiple cards materially enters into the analysis of the data, and the use of these multiple cards has led to a matching process that is both expensive and unnecessary. The question arises whether a review of this system of reporting would justify these interim reports.

The fact that both the Report of Medical Survey and Certificate of Death are used only to supplement the information received on Fa cards suggests that the basic data contained in these reports may be inadequate. As primary records, tabulations should be made directly from these records. The adoption of such procedures will require a study of the records in light of the use to be made of the statistics. The wording of cause of death on the Certificate of Death does not conform to the wording used on the present standard Certificate of Death in the United States. It appears desirable that these be uniform, since many times a death certificate must

be filed with the civil authorities as well as the Bureau of Medicine and Surgery.

The Bureau receives a wide variety of summary or periodic reports from field activities. These cover data on a weekly, monthly, quarterly, and annual basis. Many of them are important and obviously necessary to keep operational divisions informed on conditions in the field. Several of them are in the form of narrative reports and, if the statistical information included is important, they should be so arranged that the data are submitted in a uniform manner and in tabular arrangement. Some of these reports may be important for certain activities but have little or no meaning when required from other organizations. Not enough attention has been given to the type of information which should be received from ships or from shore stations. The basic system of reports is designed to meet the peculiarities of naval organization, and there are some indications that these reports and their instructions have not been sufficiently modified when applied to shore stations or field operations.

In many respects the Fa card and the monthly smooth F are the most important statistical reports coming into the Bureau. When examined in the light of the statistical needs of the different divisions, one is struck with one deficiency. Although every operational division is concerned with the occurrence of illness or disability, the basic morbidity record is based on disposition rather than admission. On such a basis, these reports will be received at varying times after admission, which makes it impossible to secure currently the incidence of any condition for a stated interval of time. Discharge records have a distinct advantage however in that the diagnosis can be recorded more accurately and the duration of disability reported.

In Appendix VI, there are presented suggested revisions of the system of the F card and Smooth F, designed to eliminate the necessity for multiple cards and to so alter the Smooth F as to make it serve the Bureau's need for data on admissions linked to size of command.

The Weekly Dispatch Report and the Monthly Communicable Disease Report which are received by the Division of Preventive Medicine are based on admissions. These reports therefore provide the quantitative facts required by this Division in its daily operations. The Neuropsychiatric Branch has a very similar need for admissions for psychiatric conditions, but its requirements are being fulfilled very inadequately. Planning and other Divisions of the Bureau would also like to have current data based on admissions and related to size of command within which the cases originate.

Difficulties of different character are encountered in the case of the report of medical facilities, Weekly Hospital Report of Patients. Here it is found that this report, which probably covered the needs of the Bureau in caring for their hospital load during times of peace, is lacking the necessary breakdowns by types of active service personnel and facilities available to meet the needs arising in the present war. As a consequence, the Neuropsychiatric Branch has had to request a special monthly report of beds, and patients with psychiatric conditions, and the Division of Planning has had to introduce certain quarterly reports. In the field there has arisen the need for periodic reports of admissions of evacuees from combat areas.

With the increase in the volume of records and reports received since the present war started, there has not been as much checking as formerly of reports as to receipt or completeness. While it is recognized that there are many factors which do not permit as complete control of records as

formerly, it is important that general checks on completeness of reports should be continued. Such checks are important in order to interpret the significance of tabulations, especially those of a current nature.

The deficiencies in the collection of basic data used in the Bureau of Medicine and Surgery can be summarized as follows:

(a) A cumbersome and wasteful system of individual reports of illness and disability which requires matching to complete one-third of cases involving 60 per cent of cards.

(b) Contents of other primary reports, Report of Medical Survey and Certificate of Death, inadequate for statistical tabulation without matching with corresponding morbidity record.

(c) No provision for securing data on current admissions on diseases other than communicable diseases.

(d) Inadequate provision for data on patient load and bed occupancy to meet present operational and planning needs.

(e) No periodic, coordinated review of records to determine their present utility and necessity, which results in continuance of reports which have outgrown their usefulness.

(f) Inadequate control of receipt and completeness of reports and records.

b) Processing.

All processing of statistical data should start with the question or questions to be answered from the information collected. As in the collection of raw data, so here the planning and analysis staff must work out the instructions and procedures to be followed in processing the original material. These should be incorporated in a manual of procedures available to all workers.

The essence of statistical method is the classification of mass data so as to group individual observations into significant classes. Such a procedure brings together into appropriate groups, individual events which have common or similar characteristics. The statistician always appreciated that in doing this he sacrifices individual detail and variation but he gains thereby the ability to examine the phenomenon as a whole. The choice of groups or classification must be determined primarily by the later plans for analysis.

Actual processing can be considered as involving three steps: (a) editing, (b) classification or coding, and (c) tabulation. The number of subdivisions or combinations of these steps will depend on the nature of the material, the shape in which it is received, and the type of final analysis.

This concept of processing as a means of classifying the rough statistics so they can serve the needs of the various divisions is largely lacking in the statistical operations of the Bureau. For example, there is a tendency in editing to "edit" into the record that which will make the case conform to the instructions for recording. In some instances one cannot be sure the editing was related to the cause of the inconsistency on the record. In most cases the end result will not be altered but in critical cases such a viewpoint as to the function of editing can lead easily to bias in the final analysis.

A more serious statistical defect is the attitude of the section in relation to codes. Until recently, all codes were the responsibility of the supervisor of the coding unit. Changes in codes are made frequently in order to provide identification of the troublesome item, rather than from a consideration of the manner in which the item should be handled in the

analysis.

The proper function of a statistical code is to provide for the classification of raw data into groups to be used in analysis. Since tabulations will in some instances be for detail classifications and in other cases for broader groupings, a particular code should be constructed where possible so that the numerical part of the detail code will collapse into the more common broader groups.

In general the codes used in the Section failed to observe these principles. The structures of codes as a rule represent lists of items arranged in alphabetical order and assigned code numbers in accordance therewith. Except for very broad classes, there is no attempt to classify the data in a logical and orderly fashion. Identification of individual items instead of their frequency appears to account for the inclusion of many categories in the code. Because of the underlying alphabetical arrangement of the codes, they are of little assistance in the statistical classification and summarization of the raw data. In fact, the codes actually handicapped some of the subsequent steps of processing and analysis; for example, machine tabulation.

There is an explanation of the possible origin of the present codes which should be examined with some care. The consumers of naval vital statistics in the Bureau no doubt request data in minute detail or on events occurring infrequently. There is a definite place in a statistical code for every observation but a special class is not created for every variation. Access to detailed information, however, is not lost. If such data are desired, the statistical code can be used to segregate the group which will contain the detail. The data can then be tabulated from the original schedules or under certain conditions a subsidiary code can be

introduced in the processing. Provision through subsidiary code should be made only when a definite demand and the frequency of occurrence justifies its establishment. The present characteristic code, for example, provides further breakdowns of diagnoses which already have small frequencies. Sometimes it is better to make provision for an extra item in the statistical code itself. Often, however, such requests reflect a lack of understanding of the real function of statistics. The questions which give rise to these requests may be better answered by means of special studies or from statistics from some other source. Whatever the solution, the function of a statistical organization should be to find the answer, or to suggest the means by which the answer might be obtained.

The use of the Navy's "Nomenclature of Diagnostic Titles" as the code for tabulation of its morbidity statistics is likewise unsatisfactory. The reason is that no nomenclature can serve its true requirements and be a statistical classification of disease. In the Navy there is a need for both a nomenclature and a tabular list for classifying these titles for statistical purposes. A further development of this point will be given in the discussion of analysis.

Some of the difficulties which arise in processing develop from the failure to recognize that the Fa card, certificate of death, and report of medical survey, as primary records, should be tabulated independently. Instead, the data on the death certificate and report of medical survey are used to supplement the information on the Fa card. To accomplish this, tentative Fa cards are made from the certificate of death and medical survey report which are held until matched with the final Fa card which relates to the same case. Any procedure which calls for the routine matching of primary records is poor statistical practice. In the present instance all three

records contain important statistical information relating to morbidity in the Navy. Tabulations should be developed from each source. In this way the data contained in each report can be fully exploited and more prompt and timely reports issued.

The above comments refer primarily to the processing of individual reports, especially the Fa card, which represent the major statistical task of the Bureau. In handling periodic reports from activities, the procedures are less complex. For such reports, the classification of the data has already been done in the field in order to complete the tables of the report. The principal procedure for processing periodic reports is to consolidate and summarize the separate reports in an organized fashion for the activities covered.

The final step in processing is tabulation, which in some instances may be the principal analysis itself. In all cases its close relationship to the final product is such that it would seem impossible to set up tabulation procedures without knowledge of the final tables. The tabulation or machine unit of the Section is handicapped (1) by having its procedures governed to a considerable extent by the inadequate mechanics of the codes and (2) by lack of knowledge of future steps in analysis and (3) poor coordination of its work with the administration unit which makes up the final tables. Many of the machine tabulations are returned to the administration unit as detailed machine slips where they have to be recorded and summarized in making up reports. The work of this unit illustrates well how necessary it is to have a planning and an analysis staff to coordinate the instructions and procedures required in all processing of statistical data.

In the actual procedures of punching and verification more consideration should be given to the balance between these two important operations. Per-

sonnel difficulties due to the shortage of trained punch operators have seriously handicapped the work of the unit. Card punching, however, is a relatively simple operation to learn providing the data for punching is received in a satisfactory form. Inexperienced persons can be trained into efficient operators if an adequate training program and supervision are provided, with proper incentives. The solution, however, falls more in the operational management and not in the immediate purview of the Committee.

The Bureau is not fully utilizing its tabulating equipment. Too much time is spent in sorting punched cards into detailed arrangement of individual cards before placing in files. No punch card file should attempt to hold statistical cards for individual reference. The file of such cards should be arranged according to the statistical groups which are most convenient for special tabulations or other processing in the future. If requests are frequent for tabulations on more than one major axis, consideration should be given to the maintenance of duplicate files. Such duplicate sets should be created, however, only when their establishment is justified by the demands for special tabulations. Another solution that sometimes is available is the preservation of special runs of the cards on detailed machine slips. There should be as many different types of punch cards as there are kinds of schedules to be punched. It is confusing to operators and leads to errors and lower production when the same punch card is used for punching different sets of data, even though most of the items are the same as is the case in punching the tentative FP cards used in tabulation of deaths and invalidings from service.

While these technical deficiencies in processing methods have severely hindered the statistical activities of the Bureau, most of the present difficulties of the Vital Statistics Section arise because of the involved

system of individual reports. The necessity for the matching of sixty per cent of these cards (representing however only thirty per cent of actual cases) requires the introduction of a whole series of steps that are essentially wasteful and contribute only delay in the production of final results. Most of these steps, that is the separation of Fa cards into Natures, preliminary coding and punching of name for matching purposes, periodic merging and matching of records to obtain completed cases, reviewing and summarizing completed cases after matching, could be eliminated by the adoption of a single report on each case of illness or disability.

The inadequacies of present methods used in processing raw data can be summarized as follows:

(a) A wasteful and cumbersome system of individual reports (Fa cards) which involves the matching of sixty per cent of cards before statistical processing can commence.

(b) Excessive amount of routine matching of primary records other than Fa cards which delays tabulation and is wasteful of man power.

(c) A lack of a statistical approach to problems of editing, coding, and tabulation because of failure to recognize that classification is a basic element in all statistical procedures.

(d) Improper structure of most codes so that they fail to assist in the statistical classification and summarization of raw data.

(e) Statistical procedures hampered by endeavor to provide easy access to information on individual cases.

(f) Absence of coordinated planning of the various steps of processing in accordance with later needs of analysis.

(g) Incomplete utilization of machine tabulation in the production of final tabulation.

c) Analysis.

Statistical analysis requires competent planning of all statistical procedures: collection, processing, and tabulation. It is for this reason that a satisfactory statistical service cannot be set up without a professional staff coordinated in a section of planning and analysis. These two activities, planning and analysis, are really parts of the same problem. The absence of adequate planning has been noted consistently in the previous discussions. Before further discussion of analysis, it is desirable to consider once again the question of what statistical facts the Bureau of Medicine and Surgery wants to secure from its vital statistics and what purposes they are to serve.

(i) Clarification of concept of morbidity.

The first function of the statistical program of the Bureau is to make available for current operations, and for current and future planning, statistical information concerning the occurrence of illness and disability in naval personnel, and concerning the medical facilities and their utilization, available for the care of the Navy's sick and injured. Just what does the Medical Department need to know about illness and disability?

Morbidity is one of the most difficult phenomena to reduce to quantitative statement. Illness is far less definite than mortality. The occurrence of death is a definite event and the number of such events can be counted. An illness, on the other hand, varies from a minor deviation from normal health which does not interfere with the performance of regular duties to a bed or institutional chronic case which requires bedside or custodial care for an indefinite period with eventual fatal ending.

Therefore several issues must be faced before one can say just what it is that should be counted as illness or as a case of illness. Some of these are:

(1) How great a departure from normal health will be considered an illness or disability?

(2) Will multiple diagnoses in the same individual at the same time be counted as one or two cases?

(3) In such instances, will the number of sick days be charged to both conditions or only to one, or will some other procedure be followed?

(4) Will the return to the sick list or hospital for the recurrence of the same condition be considered a continuation of the former case or a new case of illness?

The decisions on these and similar questions for the Navy will depend upon the use that is to be made of the data. Proper analysis of the statistics will depend on the answers. The instructions in the Manual of the Medical Department for taking up and disposing of cases on the sick list determine the practice to be followed in collection. At present these instructions indicate a rather restricted and perhaps legalistic definition of morbidity.

As a consequence it is found that frequently the interpretation of morbidity rates in the Navy must be qualified. An admission rate, as generally used in the Navy, is based on only those cases taken up on the sick list as "admitted" (A). These cases are "all new admissions for disabilities which have developed or been incurred since entry into the service and which have no relation to a disability for which the patient has been previously taken up on the sick list." The adequacy of this definition depends upon the purpose for which admission rates are used in the Navy.

The most logical definition should be that which would have the greatest use in the analysis of the data.

The Division of Preventive Medicine must have knowledge of the number of cases of communicable diseases. The Weekly Statistical Report and the Monthly Communicable Disease Report therefore call for admissions (A) and admitted contributory disability (ACD). The Neuropsychiatric Branch needs admissions for all neuropsychiatric cases which necessitates asking for EPTE as well as A and ACD. The Division of Planning must provide beds for all patients regardless of when the actual origin of the disability occurred.

These uses of morbidity statistics are not so different from those found in other fields including those which are essentially civilian. The common interpretation of an admission or morbidity rate is the number of cases of a given morbid condition observed to occur or to come under treatment during a period of time in relation to the population under observation. All new cases observed are counted and any exclusions restrict the meaning of the rate. Exclusion of conditions which are considered as having existed or arisen prior to entry into the service limits greatly the use of admission rates as ordinarily computed and used in the Navy's vital statistics. There are other first admissions taken up on the sick list as readmissions that further restrict these rates.

There would appear to be distinct advantages to the Navy in changing to the usual interpretation of admission and morbidity rates. Certainly many of the operational and planning uses of these vital statistics would be enhanced. Further, the considerable confusion that now exists when an admission or morbidity rate is used would disappear. At the same time, it would greatly add to the comparability of navy experience with that of other population groups. The use of a broader base for admissions does not mean

that the present classification of admissions should be done away with. There are very sound administrative reasons for separating EPTE from new admissions arising from conditions incurred since entrance into the service. The suggestion is that the more servicable rate for the usual needs of the Navy is that based on all first admissions.

An illustration of a possible effect of the present meaning of admissions in analysis is found in the table on page 2 of the Annual Report for 1940. The table has the title "Sick days per person and per admission." The figures in the column headed "Average number of sick days per admission" have no useful or valid meaning. The reason is found in the footnote to the column which states the average is "Total sick days for all types of admissions (A, RA, ACD, etc.) divided by number of new admissions (A). This is one example of several where the definition of admission leads to fallacious results and misunderstanding.

(ii) Statistical classification of diseases and injuries.

Adequate analysis of the vital statistics of the Navy strikes an obstacle in the use of the Bureau's "Nomenclature of Diagnostic Titles" for statistical purposes. No nomenclature of disease conditions can meet the needs of a tabular list for the statistical classification of diseases. Considerable confusion, in fact, exists in many medical, hospital, and even statistical organizations as to the separate purposes to be served by a nomenclature of approved diagnostic titles and a statistical code for the classification of illnesses and disabilities. These separate objectives will be examined in the light of the needs of the Bureau of Medicine and Surgery.

The true function of a nomenclature of diseases or pathological

conditions is as a list of approved medical terms suitable for use by physicians in recording specific causes of illness or disability. Every hospital or medical organization needs such a list so that physicians on its staff will use and have a common understanding of medical terminology needed for describing their clinical and pathological observations. A diagnostic nomenclature should be reasonably complete and include only one approved term for each pathological condition. As medical science advances and morbid conditions are differentiated and described, the nomenclature should expand. An official nomenclature of this kind is of real importance to the Medical Department of the Navy in order to secure uniform recording of diagnoses. This need arises in part from the great mobility of its patients characteristic of no other medical organization except the Army. A particular patient may receive medical care from a large number of different doctors and in several hospitals. The findings of these physicians will be entered on the health record of the individual and on medical surveys; therefore such entries must be in precise terminology in order to be clearly understood. Further, in many instances the entries will be subject to review and interpretation as the basis for specific medico-legal judgement or action. These uses make an official nomenclature indispensable to the Navy.

On the other hand, the purpose of a tabular list for the statistical classification of diseases is entirely different. Its purpose is not to provide precise terminology for recording specific diseases but rather the classification of these conditions into a limited number of significant groups for statistical uses. A particular disease entity will have a separate title in the tabular list only when (a) its frequency warrants a separate title or (b) its importance as a morbid condition warrants

separation on some other grounds. Many of the titles or rubrics will therefore, be groups of pathological conditions. Slight differences in manifestations or clinical variations, often difficult to make, will not be noted in such a list. Every disease condition found in the nomenclature, however, would have its appropriate assignment in the tabular list but each would not have a separate title. Any tabular list for statistical purposes must have as part of it an alphabetical index of diagnostic titles which will indicate the exact assignment in the tabular list of each diagnosis.

In the compilation of mortality statistics, a similar need arose for a tabular list of causes of death. This need has been met by the "International List of Causes of Death." Its use has become standard practice in nearly all countries for the tabulation of mortality statistics. Its wide adoption has gone a long way toward securing comparable mortality statistics throughout the world. For a long time, there has been needed a tabular list of illnesses and disabilities that would do for morbidity what the "International List of Causes of Death" has accomplished in the field of mortality statistics. The titles of such a list should be so geared to those of the death list that the relation between cases and deaths, in other words case fatality rates, may be calculated.

Recently a "Diagnostic Code for Tabulating Morbidity Statistics" has been published jointly by the U. S. Public Health Service and the U. S. Bureau of the Census. It is believed that its adoption by the Medical Department of the Navy as a base for tabulation of its morbidity would be a great aid to a more comprehensive analysis of its present experience.

If such a code is adopted for statistical purposes, it would not supplant the present nomenclature of the Navy. The "Nomenclature of Diagnostic Titles" should remain as the list of approved diagnostic terms

to be used by the medical officers in recording their observations. Since the nomenclature will no longer serve a specific statistical purpose, it should be revamped better to meet the Navy's need for a true nomenclature. The number of diagnostic titles can be increased and a rearrangement of titles made if these will assist medical officers in selecting the proper title for a given disease condition. There will be no necessity for the medical officers to attach code numbers in the field as it is the function of the statistical office to assign the proper statistical code. The physician will have a wider range of diagnostic titles from which to choose, and hence be in a position more adequately to record his observations. In this way the nomenclature would serve as a guide in the uniform recording of precise clinical observations and physical findings.

(iii) Adequacy of present analysis.

Statistical analysis means basically the putting together in an organized fashion the raw statistical data. This organization may be only the rearrangement of the data in some logical and significant order, for example, according to geographic areas. On the other hand, it may involve the computation of rates, ratios, or other statistical constants.

A review of many reports based on Navy vital statistics, - including a general failure to organize the data in a form that easily serves the various special interests of users, even those within the Bureau of Medicine and Surgery itself. For example, the most common arrangement of tables is an alphabetical listing of the items tabulated. Numerous examples could be cited but mention will be made of only one which was pointed out by one of the Divisions using the information. The Weekly Summary of Patients and

Accommodations in Naval Hospitals would have its usefulness greatly increased if the hospitals were arranged by Naval Districts instead of alphabetically by cities in which the hospitals are located.

The Weekly Statistical Report for communicable diseases illustrates another defect in many of the tables and reports of the Bureau's statistics. This report fails to give any comprehensive picture of the communicable disease situation for shore stations in continental United States. The reason is obvious in that the totals for each Naval District are buried in the middle while totals for the whole country are given at the end of detailed tabulations. The graph in this report would have its usefulness greatly improved if it were at the beginning rather than at the very end of the report.

The fact that only one regular report, namely a report on venereal disease incidence, is based on the Monthly Communicable Disease Report is an example of the failure to utilize all of the material coming into the Bureau, which would be of real assistance to the various sections and divisions of the Bureau in carrying on their respective activities. Because more use was not made of the monthly communicable disease reports, the Epidemiology Section of the same Division in which the communicable disease report is received, turned to the Vital Statistics Section for a daily tabulation of Fa cards from foreign stations. Such a use of Fa cards is wasteful in that they represent cases of communicable diseases covering no definite time period and in that they provide no knowledge of the strengths of the activities in which the cases occurred. The Administration Section of the Division of Preventive Medicine has much more reliable information from monthly reports of communicable diseases which are posted regularly to an epidemiological record.

The Committee spent considerable time in studying the involved problem

as to the proper source of population or strength figures for use in analysis of Navy vital statistics. Without a population base no comprehensive analysis of morbidity can be made. The inadequacy of many current tabulations is due to the absence of figures on exposed populations. Both the monthly communicable disease reports and the smooth F contain figures on the average strength for the month covered by the report. The real difficulty appears to be not so much the absence of figures on strengths as the difficulties involved in knowing what naval activities to combine when the total for a given geographic area is desired.

A special study of strength and location given on smooth F for 1265 activities was made for the Committee. Strength figures were given in all but 158 reports. Except for the Fleet Marine Force, Advance Bases, and for some of the construction battalions, the omissions appeared to be oversights. Even for the above groups, strength figures were given on 247 of the 337 reports from these activities studied.

The picture with regard to location was somewhat different. Except for stations within continental United States, the location was identifiable by name or code in only 13 per cent of the forces afloat, and 34 per cent for the other groups. It is recognized that the mobility of forces afloat and the requirements of security make this problem a difficult one to solve. At the same time it is clear that many of the questions, which Planning in particular asks of statistics, require its solution.

The Committee believes that the answer is linked with the greater utilization of the smooth F under strict security safeguards. Its solution is important not only for current operational statistics but imperative if the experience of the present war is to be available in an adequate statistical form to assist both the Navy as a whole and the Bureau of Medicine and

Surgery in particular in its planning for future operations.

In addition to the Weekly Summary of Patients and Accommodations in Naval Hospitals, the Vital Statistics Section prepares several periodic reports intended to serve special interests. Few of these are organized in such a manner as to meet adequately the needs of the various Divisions requesting the reports. In many cases the Division receiving the report must reorganize the information before it is of use. The reason that these reports fail to be immediately useful is in part because the data available to the section on admissions is inadequate, and in part because the reports prepared are not well organized to answer the type of questions facing the operating division. In fact, the Vital Statistics Section as a rule does not know how its reports are used after they are submitted. On the other hand, a great deal of time and effort on the part of the Section goes into the preparation of these reports.

The daily report of admissions of communicable diseases occurring at foreign stations, and the cumulative tabulation of admissions from selected communicable diseases for the entire naval establishment, can be taken as examples of the first deficiency. In both instances the reports require the hand sorting and tabulation of cards which are earlier segregated by hand upon receipt. Since the Fa card is essentially a report on disposition and not admission, the tabulated statistics refer to admission for an indefinite time period, and there is no assurance that all admissions during the period which is covered by the cards received on a given day, are represented. In most instances the report certainly does not include all admissions. Both reports have therefore only limited value. As a matter of fact, the monthly communicable disease report received by the Administration Section of the Division of Preventive Medicine is a much better source of such information.

It would seem that the failure to prepare more reports from these monthly reports may be one reason that the Vital Statistics Section is asked for current data on communicable disease.

The monthly reports of Venereal Disease Incidence by Place of Exposure and of Mental Diseases can be taken as examples of the second deficiency. The report for venereal diseases consists of three tables which require the typing each month of 45 pages of tabulations. The monthly report for mental diseases consists of five tables which require a minimum of 14 pages, but since the reports for previous months are amended to include additional data which have been received during the current month, the number of pages is usually much greater. Few of the tables in these reports are well organized, and most of them contain too much detail. In both instances, it is a lack of knowledge of how the report is used that leads to the preparation of so extensive a report.

Attention has already been called to the fact that neither the Report of Medical Survey or the Certificate of Death is tabulated directly, but is used to supplement the data received on Fa cards. As a consequence, the monthly reports, which are developed from the tentative Fa cards prepared from these two primary records, are considered tentative. If these reports were tabulated directly from the primary records involved, they would more adequately meet the needs of operating agencies for information relative to invalidings from service and death.

Both the Administration and Vital Statistics Sections of the Division of Preventive Medicine prepare many special tabulations and reports upon the request of officers within the Bureau and for many governmental agencies. The statistical organization should so function that it is prepared to meet these special requests without disrupting the routine flow of work. This

can be accomplished insofar as routine material is concerned by keeping the files on a statistical rather than on an individual basis.

For the purpose of handling requests that involve special material, the statistical organization should maintain contact with the sources of the data, i.e., the medical officers of hospitals, dispensaries, and other activities. Special information is very often costly or impossible to obtain, due to the fact that the hospitals and dispensaries do not keep their records in a uniform pattern. A review should be made of case records in hospitals and dispensaries by a committee composed of medical officers from the field and from the Bureau, together with the planning and analysis staff of the statistical organization. This review should have as its objective the establishing of records that are uniform and systematic for certain minimum features of the case, while still providing ample opportunity for the recording of all observations desired by the clinicians and surgeons who are responsible for treatment of the case.

With the base records better established, the flow of material to headquarters will be more uniform, and it will be far less costly to obtain information on special subjects than at present.

The statistical organization should constantly review the reports that they prepare at special request, with the view of revising their regular reports to meet the needs that are expressed in these special requests. Great care, however, should be taken to distinguish between requests that are temporary in character and those that are recurrent. It is wasteful to continue in routine reports information that has been prepared to meet a temporary need.

The insufficiencies and inadequacies of analysis can be recapitulated as follows:

(a) Confusion results from the present use of only new admissions in the computation and interpretation of admission rates.

(b) Lack of a statistical classification of diseases and injuries handicaps adequate analysis of morbidity.

(c) Inadequate organization of statistics in tables impedes full use of statistical information.

(d) Failure fully to utilize statistical information contained on summary reports from the field leads to preparation of periodic reports from inadequate sources.

(e) Incomplete knowledge of how reports are used leads to preparation of periodic reports that are exhaustive in content and time-consuming in preparation.

d) Annual Report of the Surgeon General.

The Committee found the portion of the Annual Report of the Surgeon General which is devoted to medical statistics, disappointing both as to content and as to its general make-up and arrangement. The purpose of this portion is to place on permanent record a statistical description of all phases of medical activities for the guidance of the Medical Department. Thus, the report should be based on an annual tabulation of information contained in the various records available, the Fa cards, the smooth F, Weekly Report of Hospital Patients, annual sanitary reports and other field reports. These annual tabulations will be as a rule more extensive than is the case with interim reports.

The Annual Report should contain not only these tabulations but should also carry such comparative figures as may be needed in meeting the needs of long-time planning.

Some of the periodic reports, particularly those developed for special

purposes, should be issued in a manner that will permit their assembly in bound form on an annual basis. This bound collection of special reports may be considered as a part of the annual report or not, as desired.

The Annual Report as presently constituted fails to analyse the Navy's medical statistics in the light of needs of consumers, such as: administrators of medical units, special services, or hospital organizations; commanding officers; staff officers responsible for epidemic control and preventive medicine; and other persons of Navy and civilian activities who deal with studies of illness, injury, or death, with medical phases of induction into, invaliding from, or discharge from service, and with the relation of Navy medical statistics to the civilian scene.

As has been pointed out above, the failure of the Bureau of Medicine and Surgery to secure more information from its tabulated vital statistics is because so many of the tabulations are essentially alphabetical listings of unclassified data. The absence of an appreciation of the fact that the basic concept of statistics is the organization of numerical frequency of events into a classified arrangement in accordance with the use to be made of the statistics, lies at the basis of the inadequacy of the report.

The analysis of much of the data in the report is further handicapped by the restriction placed on admission rate, which must always be qualified to indicate that the rate refers to new admissions which in Navy usage, means first admissions of "disabilities which have developed or been incurred since entry into the service and which bear no relation to a disability for which the patient has been previously taken up on the sick list." As a consequence, many of these rates and the discussions pertaining to them, are not directly applicable to problems which the Bureau faces in providing medical care for its sick and injured. A report in which so often one must

further organize and analyze the data before they can be used in the every-day problems of operations and planning cannot be considered adequate.

There is one feature of the Annual Report which no doubt has led to commendations at times. The extreme detail of Table I means that the frequency of a particular diagnosis in the Navy can be found immediately. Such a table, however, does not represent a statistical table, but is in essence a diagnostic index. It has a decided disadvantage in that unless the disease entity is very specific, the items reflect not the true frequency of occurrence of a given pathological condition but rather the frequency with which the specified diagnostic title is used. The purpose of a statistical table is to bring together into a single group all events which are essentially the same phenomenon regardless of the terms used in recording the condition. Because of the extreme detail and alphabetical arrangement of the items, one is never certain that he has abstracted all cases of a given disorder without a long and laborious examination of all items in the table. The usefulness of this table is, therefore, more apparent than practice would demonstrate.

In a very real sense, the Annual Report epitomizes the general deficiencies of the Bureau's statistical program. It is for this reason that a reorganization of the Annual Report can not take place without a reorientation of statistics in the Bureau.

5. RECOMMENDATIONS

The outstanding fact brought out in the investigation of the Committee is the lack of competent planning and control of the important statistical problems which are presented by the Bureau of Medicine and Surgery. Many routine activities are, to be sure, undertaken, but there is no evidence of extensive utilization of the rich sources of information. There has not been an enlightened conception of the problem or of the opportunity which the records in the Bureau of Medicine and Surgery present. The chief difficulty lies in the absence of a Director of sufficient skill and standing in his profession to command the respect of his colleagues in other divisions. For that reason, there has been no coordination of the statistical work of the Bureau, and the Vital Statistics Section has not been called upon to exercise leadership in the solution of the statistical problems of the Bureau.

The Committee, therefore, recommends as a first step in the reorganization of the statistical function in the Bureau of Medicine and Surgery the appointment of a man of recognized ability, capacity, and professional standing to direct all of the statistical work in the Bureau. Such a man should have a dignified relationship to the other divisional chiefs, and his organization should be on an equal plane with other major Bureau activities. There should be assigned to the man in charge of statistical functions: (a) a small professional staff consisting possibly of four persons, together with the necessary technical and clerical assistance; and (b) a clerical and mechanical tabulating staff to maintain routine operations relating to Navy morbidity and mortality statistical reports, and any other routine statistical compilations required by the Bureau of

Medicine and Surgery. A suggested organization chart having these general features is presented as Appendix VII.

The duties and responsibilities of the Chief of this proposed statistical organization would fall into two classes, coordination and operation.

Coordinating functions should comprise: (a) planning adequate statistical programs; (b) general consultation service for chiefs of the other Bureau activities concerning the statistical aspects of their problems; (c) the collection of current data from Bureau operating divisions for the preparation of statistical reports and annual statements, and (d) the review of and recommendations of statistical forms and procedures, provided that all forms should be cleared with the Administration Division as well.

Operational functions should comprise general responsibility for: (a) professional statistical operations, such as the preparation of periodic and current reports and annual statements, charts and graphs; (b) the planning and supervision of the statistical operations of special studies in cooperation with other Bureau activities; (c) technical and clerical operations concerned with the compilation of routine morbidity, mortality, and health data, and (d) the maintenance and servicing of individual morbidity and mortality records received as bases for the routine tabulations.

The primary recommendation of the Committee is then a reorientation of the statistical program of the Bureau of Medicine and Surgery so that there will be one focal point in the Bureau for all statistical work under the supervision of a Director of recognized professional standing and ability. Working under the Director, there should be a small professional staff which devotes its attention to the development of the technical plans for the collection, compilation, analysis, and dissemination of medical statistics of the Navy, and coordination of these with the operational and planning

needs of the Navy as a whole and of the Bureau of Medicine and Surgery, in particular. Also, alongside such a staff, there should be an operations section devoted to carrying out the basic statistical operations involved in effectuating the statistical program of the Bureau. The chief of this operations section should be a member of the planning and analysis staff.

Such a reorganization of statistics in the Bureau of Medicine and Surgery under the leadership of a man of capacity and professional standing would lead to a change in the underlying approach to all statistical problems in the Bureau and in many of its statistical operations. The Committee lists below several specific recommendations as to changes that should be carried out as rapidly as possible after the new organization has been established. It does not believe that many of these recommendations can be satisfactorily put into effect until the head of the organization has been selected and an adequate planning and analysis staff assembled.

The specific recommendations group themselves into five categories: (A) Classification Problems; (B) Primary Reports or Individual Records; (C) Summary Reports; (D) Forms and Procedures, and (E) Dissemination of Statistical Information. Although arranged in accordance with this grouping, the recommendations are numbered consecutively.

A. Recommendations re Classification Problems

1. The Bureau of Medicine and Surgery should review the whole classification of naval morbidity with special consideration as to the adequacy of its present use of "admissions" in meeting operational and planning needs. The Committee recommends the use of an admission rate which is based on all first admissions during a calendar year, including first admissions of disabilities incurred prior to entrance into naval

service. The special types of admissions could still be shown as subclasses of first admissions which, in fact, they actually are. (Sections 3 B, subsection b(i); 4 B, subsection c(i)).*

2. All statistical codes used by the Bureau of Medicine and Surgery should be reevaluated, simplified, and reorganized so as to better serve the statistical objectives of classification of mass data. (Section 4 B, subsection b).

3. In classification of diseases and injuries for statistical purposes, the Bureau of Medicine and Surgery should adopt as a basis the recent "Manual for Coding Causes of Illness According to the Diagnostic Code for Tabulating Morbidity" issued by the United States Public Health Service. Such modifications as may be necessary to fit the special problems of the Navy should be made. In the interest of comparable statistics in the Army and Navy, consideration should be given to a joint review of this code with the Division of Medical Statistics of the Army. A convertibility index should be developed between the present Navy morbidity code based on its "Nomenclature of Diagnostic Titles" and the recommended code. Such an index will become a link in the interpretation of any irregularities in time trends resulting from this change. (Section 3 B, subsection b(ii); 4 B, subsection c(ii)).

4. The present "Nomenclature of Diagnostic Titles" should be retained as a list of approved diagnoses for medical officers to use in recording causes of illness and injury. This nomenclature should be reviewed with reference to the best practice in nomenclature, as exemplified by the Standard Nomenclature of Diseases issued by the American Medical

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* Sections and subsections are shown clearly in Table of Contents.

Association. (Section C, subsection c(iii)).

B. Recommendations re Primary Reports or Individual Records

5. The Bureau of Medicine and Surgery should adopt a simpler system of individual statistical reports of illness and disability so as to eliminate the excess cards that come from multiple reporting. There is presented in Appendix VI a suggested revision of the F - card "Individual Statistical Report of Patient" which represents a single record initiated on admission but not sent to the Bureau until final disposition of the case. (Sections 3 B, subsection a, b; 3 C, subsections c(i), c(ii); 4 B, subsection b).
6. The individual statistical reports of patients (Fa card) should not be used routinely as a source of current statistics on incidence of disease. Being a discharge record, it is not suited for such a purpose. Its tabulation should be based on a time period related to discharges (final disposition), and the results should be reported on a quarterly and annual basis. (Section 4 B, subsection c(iii)).
7. The statistical analysis of mortality in the Navy should be based on information contained in the Certificate of Death. There should be no need for the routine matching of the Fa - cards with Certificate of Death before tabulation of either set of data. The individual statistical report of patient should be considered only as a morbidity report, on which death appears only as a method of disposition. (Section 3 C, subsection c(iv); 4 B, subsection a, c(iii)).
8. The Navy Certificate of Death should be revised so that the statement of cause of death will conform to the present standard practice. (Section

4 B, subsection a).

9. The statistical analysis of invalidings from service should be made from the information contained on the Report of Medical Survey. If these data are incomplete for such analysis, steps should be taken to correct any deficiencies. There should be no necessity for the routine matching of the report of Medical Survey with the morbidity report on the case. (Sections 3 C, subsection c(iii); 4 B, subsections a, c(iii)).

10. The Navy Department should define the respective responsibilities of the Bureau of Naval Personnel and the Bureau of Medicine and Surgery for current reports of battle casualties. Unless the Bureau of Medicine and Surgery is specially charged with the registration of battle casualties, its statistical service should maintain only such files of casualties as are necessary in the statistical processing of the data, and to furnish information as required by the Bureau of Medicine and Surgery in its care of the injured. (Section 3 B, subsection c).

C. Recommendations re Summary Reports

11. The statistical consolidation and preparation of periodic reports based on any summary report from naval activities in the field should be under the supervision of the statistical organization. The centralization of the statistical processing of these reports is essential to the coordination and correlation of the statistical information contained in these reports. (Sections 4 A; 4 B, subsection c(iii)).

12. The monthly report, Form F, Abstract of Patients, known as the smooth F, should be revised to meet the needs of the Bureau of Medicine and Surgery and the Navy, for periodic reports of admissions to the sick list linked to the strength of the command in which the illness or disability

originates. Under strict security safeguards, this report should make possible:

(a) Control of the completeness in reporting of both smooth F and Fa - cards;

(b) A knowledge of strength in the naval activities from which morbidity data are derived;

(c) A knowledge of geographic location in broad classifications, for which strength, morbidity, casualty and mortality data will be available; and

(d) A knowledge of both strength and morbidity data for definite time periods.

(Sections 3 B, subsections a, b; 4 B, subsection c(iii)).

There is presented in App. VI a suggested revision of the smooth Form F.

13. The Weekly Hospital Report of Sick should be revised to meet more fully the present needs of operations and planning. The Weekly Summary of Patients and Accommodations of Naval Hospitals should be reorganized in order to present these data in the form most serviceable to its users.

A weekly report should be inaugurated to furnish similar data for the larger dispensaries in order to meet the needs of some of the divisions. (Sections 3 B, subsection e; 4 A; 4 B, subsection 3(iii)).

D. Forms and Procedures

14. All forms or reports which are primarily statistical, or contain data likely to be subject to statistical analysis, should receive review by the statistical organization in conjunction with the Administration Division of the Bureau. (Section 4 B, subsection a).

15. There should be a continuous surveillance of all forms and reports to insure their statistical adequacy, necessity, and proper relationship to each other and to the statistical program of the Bureau. No form or report should be allowed to continue too long without a survey of its present utility and adequacy. Care should be taken in introducing special forms or reports, designed to secure information required at the moment, that these are not continued beyond the time of special need. (Section 4 B, subsections a, c(iii)).

16. Since the source of statistical data for many special studies will be the original medical records of hospitals and other medical activities, those records which are of general applicability should be standardized as to pattern and minimum content, after careful consideration by a group of representatives from the hospitals and the Bureau including a representative of the statistical organization. (Section 4 B, subsection c(iii)).

17. All instructions and procedures, including statistical codes used in the collection and processing of statistical data, should be incorporated in a manual of statistical practice.

    Technical and clerical personnel of the statistical organization should be given special instruction in their tasks, with particular emphasis not only on procedures but also on the relationship between them and the underlying principles of the statistical method. (Section 4 B, subsection b).

18. Routine matching of reports should be eliminated. Recommendation No. 5 provides for a system of individual morbidity reports which will make unnecessary the matching of Fa cards in order to complete the record of individual cases of illness. All primary reports should

be the basis of separate statistical analysis and need not be matched routinely with morbidity reports. (Section 4 B, subsection b).

19. An adequate control by means of appropriate check lists or files should be established in order to insure the completeness of reporting and to gain knowledge of any deficiencies. (Section 4 B, subsection a).

20. There should be a more effective utilization of the tabulating machines in the preparation of final tables and reports. Revisions of the statistical codes, and coordination of statistical procedures, which will be undertaken by the planning and analysis staff, will lead naturally to a greater use of machine tabulation with a resulting saving of manpower and time in the preparation of reports. (Section 4 B, subsections b, c(iii)).

21. Whenever appropriate and advantageous, sampling procedures should be utilized in the study and analysis of current, continuing, and special problems. In order that a viewpoint, informed as to sampling methods, may be represented in the collection, processing, and analysis of data, at least one member of the planning and analysis statistical staff should be competent in sampling techniques. (Section 4 B, subsection a).

E. Dissemination of Statistical Information

22. Statistical publications or release of unpublished information by the Bureau of Medicine and Surgery should be divided into several general types: regular current publications for distribution of information (weekly or monthly); an annual report; a set of special studies published when completed but in such form that they can be assembled, bound and indexed as an annual collection, and news bulletins directed

primarily toward the interests of the persons collecting and reporting medical data. The statistical organization should continuously review and modify its publications and releases in the light of the needs of the Navy. (Section 4 B, subsections c(iii), d).

23. The character of the statistical part of the Annual Report of the Surgeon General should be reorganized with two objectives in mind - (a) To make available in permanent form the principal statistical studies and reports which have been produced during the year, and (b) To consolidate and expand the contents of such tabulations prepared during the year as may be of value to the broad planning of medical needs of naval operations in the future. Such a reorientation of the contents of the Annual Report can be made to meet not only the needs and viewpoints of the various consumers of the Navy's medical statistics, but the series of these Annual Reports will represent a permanent statistical record of the health of the Navy. (Sections 3 D; 4 B, subsection d).

APPENDIX I

Needs for Statistical Facts in Various Agencies within the Naval Establishment

APPENDIX I

Needs for Statistical Facts in Various Agencies within the Naval Establishment.

Agency	Purpose or Use
Operational Needs	
Office of Secretary, Under-Secretary, and Assistant Secretary, U. S. Navy	Preparation of general statement on health of naval personnel for publications.
Offices of the Under-Secretary and Judge Advocate General	Data on individuals required to establish legal responsibility of Navy in compensation cases.
Safety Engineer	Data on industrial accidents and time lost, civilian employees, required in control of accidents and absenteeism.
Office of Commander-in-Chief and Chief of Naval Operations	Data on attrition, sick days, disease trends and epidemics.
Bureau of Naval Personnel	Data on individuals, sick days, attrition, location, prognosis, disease trends, epidemics.
Headquarters, U. S. Marine Corps	Data on individuals, attrition, sick days, location, disease trends, epidemics, prognosis.
Bureau of Medicine and Surgery:	
Surgeon General	Summary reports of sickness rates, casualty rates, medical facilities and utilization, disease trends, epidemics, sick days. Data for operational areas.
Division of Preventive Medicine	Data on communicable disease incidence, venereal diseases, disease trends, epidemics. Data for naval activity and area of operation, related to strength of command. Causes of industrial accidents, civilian employees.
Division of Physical Qualifications and Medical Records	Data on rejections and invalidings from service.
Neuropsychiatric Branch	Data on all admissions for neuropsychiatric conditions, continental and foreign stations, invalidings from service and recruit discharges for psychiatric conditions. Psychiatric patient load in naval hospitals.

Division of Aviation Medicine	Data on aviation accidents, physical condition of aviation personnel, disease trends, epidemics.
Division of Research	Data on diseases and injuries, statistical analysis and tests of statistical significance.
Division of Publications	Data on sickness, casualties, disease trends, epidemics, for dissemination to medical officers and public.

Planning Needs

Secretary, Under-Secretary, Assistant Secretary, U. S. Navy	Data on sickness rates, medical facilities, medical care for support of overall budget estimates.
Office of Commander-in-Chief and Chief of Naval Operations	Data on sickness rates, attrition, casualties and personnel requirements for planning operations and material needs.
Bureau of Naval Personnel	Data on rejections, invalidings from service, attrition, casualties, for planning recruitment and induction programs and replacement.
Bureau of Yards and Docks and Bureau of Ships	Medical facilities and data relating to future medical requirements.

Bureau of Medicine and Surgery:

Division of Planning	For current needs: Data on size and type of patient load, bed capacity, evacuees for naval hospitals and dispensaries. For future needs: Data on casualties, evacuees, attrition because of disease and injury, for operational areas. Data on disease incidence. Noneffective ratios.
Division of Finance	Statistics on sick and injured based on current and provisional reports. Quarterly reports of present status. Comparative statistics for former years.

APPENDIX II

Present Organization of

Vital Statistics

Section

APPENDIX II

Present Organization of Vital Statistics Section.

The Vital Statistics Section is one of six sections of the Division of Preventive Medicine and is the second largest unit of the Bureau of Medicine and Surgery. Its present organization comprises a commissioned officer as Head, a Wave commissioned officer as technical assistant, a civilian administrative assistant, and five operating units: (a) Administrative Unit; (b) Special Unit; (c) Editing Unit; (d) Coding Unit; and (e) Tabulating Unit. The present personnel numbers 2 officers, 8 ratings, and 122 civilians.

The general functions of the Section relate to the receipt, processing and tabulation of the Navy vital statistics including statistics on medical facilities. Its principal task is the processing of the individual statistical reports of illness and disability, Fa cards. While certain periodic reports are issued to provide current statistics for the several divisions of the Bureau, the predominant work of the Section is the preparation of the tables for the Annual Report of the Surgeon General. The Section also processes the Weekly Hospital Report of Patients, Industrial Disability Report, Report of Medical Survey, Certificate of Death, and several different summary reports of services and treatments. It maintains a registration file of officer sick, the files of smooth F, and of casualties.

Functional Statement of Present Organization.

The Head of the Section has general responsibility for the functions of the Section. He is concerned with problems of personnel, procedures and administrative matters. The frequent changes in Head of the Section during the past several years have prevented a continuous program for the Section.

The Technical Assistant, who, for less than a year, has been assigned to the Section advises the Head of the Section on statistical techniques and from time to time explores procedures, studies methods, and recently has begun to study codes.

The civilian administrative assistant has general supervision of clerical and office personnel and procedures as well as general direction of the flow of operations. She is also in charge of the Administrative Unit.

The Administrative Unit prepares all routine summaries and tables, and reviews all final tabulations for consistency and accuracy. It likewise prepares such additional reports as may be assigned by the Head of the Section. All mail is received, segregated, recopied when necessary, alphabetized, and routed in this Unit. The Administrative Unit is composed of: (a) Hospital Sick Report Subunit; (b) Casualty Report Subunit; (c) Special Report Subunit; (d) Industrial Accidents Report Subunit; (e) Statistical-typing pool; (f) General Office Control and Reports Subunit; and (g) Mail and Files Subunit.

The Special Unit edits and codes all Nature #1 Fa cards with the exception of cards concerning aviation, invalidings from service, deaths, casualties, and mental cases. All cards relating to venereal diseases are edited and coded in this unit.

The Editing Unit prepares Nature #2 and #3 Fa cards for coding after the cases have been matched. This operation requires: (a) clarification of terminology; (b) review of matching of Fa cards where there are two or more cards for a case; (c) determination of completeness of cases, editing for consistency of diagnosis, source, etc.; (d) cancellation or extra cards; (e) summarization of cards; (f) preparation of cards from other reports;

(g) maintenance of files for smooth F reports; (h) preparation of tentative cards for invalidings from service; (i) preparation of cards to establish yearly readmissions for cases held over from previous calendar year; (j) assignment of secondary reasons for invalidings from service; and (k) preparation of tentative cards for deaths. Nature #1 cards for deaths and invalidings from service are handled in this Section instead of the Special Unit. The Editing Unit comprises three subunits as follows: (a) Fa Matched-Complicated Subunit; (b) "IS" Subunit; and (c) "DD" Reports Subunit.

The Coding Unit has two principal coding operations. It assigns name code to all Nature #2 and #3 Fa cards for preliminary punching of these cards. Later, it codes the matched #2 and #3 in preparation for punching the statistical punch card. It edits and codes Nature #1 cards for airplane accidents and for mental cases, and edits and codes all records for special projects. The Coding Unit comprises: (a) Receiving and Distributing Subunit; (b) Fa preliminary Coding Subunit; (d) Fa Final Coding Subunit; (d) Fa Specials Subunit; and (e) FC Subunit.

The Tabulating or Machine Unit punches all Fa cards regardless of Nature. This operation calls for the punching of 8 columns for Nature #1 and 10 columns for Nature #2 and #3 Fa cards. Nature #1 Fa cards are used then to punch the 80 column statistical punch card, known as the FP card. After punching, the Nature #1 cards are sorted by name code and after verification for sequence filed in permanent file. The FP punch cards, after verification of punching, are interpreted, sorted by diagnosis, part, and character and placed in FP file to await tabulation. The Nature No. 2 and No. 3 Fa cards, after punching, are sorted by name code and held in separate files. Periodically, once in 10 days or 2 weeks, the cards are merged and matched by the collator, the matched cards going to the Editing Unit for

further processing. Later the coded, matched Nature No. 2 and No. 3 Fa cards are returned to the Tabulating Units coded and ready for punching the statistical punch card. Each batch of statistical punch cards after punching and verification, is tabulated for certain items as a check of the whole processing, editing, coding, and punching. The Tabulating Unit also punches modified statistical punch cards for invalidings from service and deaths, as well as statistical cards for industrial accidents in civilian employees of shore stations and man-hours worked. The various machine steps in processing occupy an unusual proportion of machine time and cut down materially the time available for actual tabulation of the cards. Most of the tabulations represent listings from which final tables are assembled by the Administrative Unit. The equipment of the Tabulating Unit consists of 17 punches and verifiers, 5 sorters, 1 interpreter, 1 collator, 2 reproducing punches, and 2 tabulators. The Tabulating Unit comprises a Punching Subunit and a Tabulating Subunit.

APPENDIX III

Personnel and Work Load of Vital Statistics Section

APPENDIX III

Personnel and Work Load of Vital Statistics Section.

Prior to Pearl Harbor, the total personnel of the Vital Statistics Section was 3 Service and 60 civilian personnel. Eleven months later, November 5, 1942 its personnel had increased to a total of 72 individuals, service and civilian; on May 17, 1943 the total was 109, and in October, 1943 the personnel of the Section was 2 Commissioned Officers, 8 enlisted men, and 115 civilians. The rapid growth of the Navy, both service personnel and civilian employees of shore establishments during this period, has thrown a heavy load upon the Section. Since the greatest task of the Section is the processing of Fa cards, the receipt of these cards can be taken as an index of the increase in work load. The average number of Fa cards received per month in 1941 was approximately 40,000. For the four weeks ending October 16, 1943 it was 160,270 cards, or a weekly average of 40,000.

The Administrative Unit of the Vital Statistics Section keeps a weekly record of work status of each stage in the processing of Fa cards. From week to week the backlog for the various stages varies, depending somewhat on the shifting of personnel around in order to keep the accumulation as low as possible and to avoid piling up of unfinished work in one section. Even at that, the size of the total backlog is constantly growing, as is shown in the following table comparing the weekly receipts of Fa cards with the total cards in all stages of processing at the end of each week for the period July 5, 1943 to October 16, 1943.

Weekly Receipts and Backlog of Fa Cards
Vital Statistics Section
July 5, 1943 - October 16, 1943

Week ending	Total Fa Cards received	Total Fa Cards in all stages of processing on hand at end of week
July 10	40 353	227 029
July 17	39 761	269 121
July 24	25 287	313 454
July 31	28 092	266 581
August 7	51 000	236 993
August 14	43 351	244 355
August 21	31 835	278 243
August 28	39 897	323 561
September 4	35 244	376 604
September 11	36 558	342 266
September 18	31 327	351 370
September 25	37 727	347 398
October 2	39 624	398 929
October 9	46 072	462 633
October 16	36 847	428 433

For the week ending October 16, 1943, the number of Fa cards on hand at each stage of processing was as follows:

Stage of Processing	Number on hand
Coding of Nature No. 1	10 824
Name coding Nature No. 2 and No. 3	19 840
Final coding Nature No. 2 and No. 3	18 548
Editing Matched Nature No. 2 and No. 3	158 744
Editing and coding specials	3 011
Serial punching Nature No. 2 and No. 3	52 359
Punching Nature No. 1	60 286
Final punching Nature No. 2 and No. 3	104 821

The most serious accumulations were of Nature No. 2 and No. 3 Fa cards waiting for review of the matching, cancellation of extra cards and editing of completed cases, and of Fa cards waiting for punching. Since the above data were secured, special arrangements have been made to reduce the backlog in the Tabulating Unit by sending the Fa cards awaiting final punching of the statistical card to another tabulating unit in the Navy Department.

If anything, it is surprising with the complicated system of morbidity reporting which requires so much matching, the nonstatistical character of the codes, the importance attached to the linking together of individual records pertaining to the same case, and the constant recruiting of new and inexperienced clerks, that the backlog is not of greater magnitude.

APPENDIX IV

Tabular Comparison of Certain

Field Reports

TABULAR COMPARISON OF CERTAIN BASIC VITAL STATISTICS FIELD REPORTS

1-13-44

Form Number, Subject and Frequency	#10 Daily Personnel Report to C.O.	I. Weekly Hospital Report	Quarterly Bed Report (Planning Division, P2-1)	Monthly Smooth F Report (of dispositions)	Weekly Communicable Disease Dispatch	Monthly C.D. Letter (to Administration Sec., Preventive Medicine Division)	Annual Sanitary Report
Reported by	Hospitals and hospital ships		Continental naval hospitals	Ships, shore stations, fleet marine and other units with medical personnel or representatives.	Shore establishments, continental U. S.	Same as smooth F	All ships and shore stations, including foreign stations
How used	Principal use is local. Used sporadically by V. S. Division.	Consolidated into FS-5 and distributed to about 25 offices.	Collected and used by Planning Division	Check list for Fa cards Strengths posted to epidem. cards. Formerly used to get sick days.	"Weekly Statistical Report, shore stations" (Administration Sec., Preventive Medicine Division)	Tabulated in Epidem. card (Y-1) and on Mo. V.D. Report	Tabulated by Admin. Sec. on work sheets for Special reports

CONTENT OF FORM. Table or T = a statistical table; N = a single number; List or L = a name list; T(o) = Table with officer-men breakdown; T(o + s) = with officer-men and supernumerary breakdown; List (r + u) = with rank and with unit "received from"; L(s.d.) = with sick days specified; T(dip) = with diseases-injuries-poisons breakdown.

PERSONNEL AND STRENGTH DATA	Table (hospital personnel)	...	...	Strength	Strength	Monthly average strength	Average strength
FACILITIES DATA Beds, 8' centers	...	Table (o + s)	Table	...	...	...	...
Auth. construction	...	Table (o + s)	Table	...	...	...	...
Beds set up	Table	...	Table	...	...	...	...
PATIENT LOAD Beds occupied (or vacant)	Table	Table (o + s)	...	...	...	...	...
Pts. remaining	Table	Table (o + s)	...	Table(di) + List (year end only)	...	...	...
Supernumeraries	Table (some write in)	Table (detailed)	...	Specifically omitted	...	...	...
Sick - or pt. - days	Table (Approx., as daily beds occupied)	...	...	Table(di) + List (for dispositions	...	...	...
PATIENT FLOW Admissions, total	Table	Table (o + s)	...	Table (di) "Taken up as" for mo. dispositions	N	N	Table (o) for A, ACD, DD, & S.D.
Each cause	List (r + u)	List (officers only)	...	among List (dispositions for mo.)	...	...	...
By cause groups	...	...	...	...	...	Table (dip) for A & ACD	Table (o) (dip) for A, ACD, DD, & S.D.
Ea. commun.dis.	List (see "Each cause")	List (see "Each cause")	...	...	Table (23 causes)	Table (detailed)	Table (o) (23 causes) for A, ACD, DD, & S.D.
Dispositions, total	N	Table (o + s)	...	Table (di) detailed	...	...	...
Each cause	List (r + u)	List (officers only)	...	List (r + sick days)	...	...	...
Cause groups	...	...	...	Table (di)	...	...	...
Ea. commun. dis.	List (see "Each cause")	List (see "Each cause")	...	List (see "Each cause")	...	...	...

APPENDIX V

Forms Used for Periodic Reports

Now Issued

B-26 SECTION VITAL STATISTICS RESTRICTED

YS-dlm (A9-10)

MEMORANDUM for 12-22-43
Page #1

Subj: Form Fa Cards Received in Today's Mail as Follows:

Place	No. Form Fa Cards Received	Period of Admission	Diagnosis (Selected titles)	No. Cases	Month
Total	1023				
ALGERIA:					
Oran	12	8-17 to 11-18	Angina, Vincent's	1	Nov.
			Catarrhal fever, acute	1	Nov.
ENGLAND:					
Falmouth	20	11-12 to 11-26	Bronchitis, acute	1	Nov.
			Catarrhal fever, acute	12	Nov.
GALAPAGOS ISLANDS:	3	11-22 to 11-27	Bronchitis, acute	1	Nov.
ICELAND:	17	10-9 to 11-17	Catarrhal fever, acute	13	Nov.
ITALY:					
Naples	2	10-31 to 11-19	Jaundice, acute inf.	1	Nov.
NEWFOUNDLAND:					
Argentia	1	11-23-43	None		
RUSSELL ISLANDS:	57	11-8 to 11-28	Catarrhal fever, acute	5	Nov.
			Malaria	2	Nov.
			Tonsillitis, acute	14	Nov.
WOODLARK ISLAND:	7	10-24 to 11-23	Catarrhal fever, acute	1	Nov.
			Tonsillitis, acute	1	Oct.
1ST MAR. AMPHIBIOUS CORPS:	60	10-19 to 11-30	Catarrhal fever, acute	3	Nov.
			Fungus infection skin	4	2 Oct.
					2 Nov.
			Jaundice, ac. infective	1	Nov.
			Malaria	1	Nov.
			Rheumatic fever	1	Nov.
			Tonsillitis, acute	1	Nov.
1ST MAR. DIV. FMF:	1	11-16-43	Typhus fever	1	Nov.
1ST CORPS MOTOR TRANSPORT. BATTALION:	10	10-15 to 11-14	Catarrhal fever, acute	1	Nov.
			Tonsillitis, acute	1	Oct.
1ST MAR. RAIDER REGT.:	25	10-7 to 12-3	Fungus infection skin	1	Nov.
			Malaria	1	Oct.
3RD MAR. DIV. FMF, IN THE FIELD:	34	11-3 to 11-27	None		
3RD MAR. REGT. FIELD HOSPITAL:	2	11-4 to 11-5	Malaria	1	Nov.
3RD BASE DEPOT, FMF:	1	11-16-43	Tonsillitis, acute	1	Nov.
4TH MAR. DIV. FMF:	67	11-9 to 12-6	Bronchitis, acute	1	Nov.
			Angina, Vincent's	2	Nov.
			Catarrhal fever, acute	24	21 Nov.
					3 Dec.
			Food poisoning, bacterial	1	Nov.
USN BASE #2:	16	10-11	Bronchitis, acute	2	1 Oct.
					1 Nov.

YS- (A9-10)

MEMORANDUM for

Subj: Form Fa Cards Received in Today's Mail as Follows: 23 Dec 1943

Place	No. Form Fa Cards Received	Period of Admission	Diagnosis (Selected titles)	No. Cases	Month
USN BASE #2: - cont.			Tonsillitis, acute	1	Nov.
			Catarrhal fever, acute	7	Nov.
USN BASE HOSP. #6:	2	10-27 to 11-21	None		
ADV. NAVAL BASE IV:	3	11-23 to 11-30	None		
FOURTH DEFENSE BATTALION, FMF:	10	11-7 to 11-18	Tonsillitis, acute	1	Nov.
			Malaria	2	Nov.
5TH DEFENSE BATTALION, REINF., IN THE FIELD:	20	10-13 to 11-17	Catarrhal fever, acute	2	Nov.
			Tonsillitis, acute	1	Nov.
			Dengue	1	Nov.
18TH PROVISIONAL CO., c/o FLEET POST OFFICE, N.Y., N.Y.:	1	11-26 to 11-28	Catarrhal fever, acute	1	Nov.
16TH DEF. BATT'N., FMF:	5	11-17 to 11-27	Tonsillitis, acute	2	Nov.
USN DISP., ADV. BASE, RUSSEL ISLANDS:	1	11-14 to 11-25	None		
4TH CONSTR. DETACH., 2ND CONSTR. BATT., IN THE FIELD	23	11-1 to 11-20	None		
6TH CONSTR. BATT.:	1	11-26 to 12-3	Malaria	1	Nov.
8TH NAV. CONSTR. BATT.:	4	12-3 to 12-6	Catarrhal fever, acute	1	Dec.
			Tonsillitis, acute	3	Dec.
9TH SPEC. NAV. CONSTR. BATT.:	2	10-26 to 11-27	None		
20TH USN CONSTR. BN.:	6	11-17 to 11-28	Catarrhal fever, acute	1	Nov.
24TH USN CONSTR. BN.:	7	11-26 to 11-30	Dysentery, otherwise unclassified	1	Nov.
29TH USN CONSTR. BN.:	2	11-9 to 11-28	None		
32ND CONSTR. BATT'N.:	12	10-13 to 11-30	Catarrhal fever, acute	2	Nov.
34TH CONSTR. BATT'N.:	23	10-27 to 11-28	Catarrhal fever, acute	1	Nov.
			Malaria	6	1 Oct.
					5 Nov.
37TH CONSTR. BATT'N.:	24	11-1 to 11-29	Catarrhal fever, acute	1	Nov.
			Tonsillitis, acute	3	Nov.
			Fungus, infection skin	1	Nov.
41ST CONSTR. BATT'N.:	6	11-6 to 12-4	Catarrhal fever, acute	2	Nov.
45TH CONSTR. BATT'N.:	1	12-5 to 12-5	None		

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YS- (A9-10)

MEMORANDUM for

Page # 3
23 Dec 1943

Subj: Form Fa Cards Received in Today's Mail as Follows:

Place	No. Form Fa Cards Received	Period of Admission	Diagnosis (Selected titles)	No. Cases	Month
55TH CONSTR. BATT'N.:	21	10-4 to 11-26	Bronchitis, acute	1	Oct.
			Catarrhal fever, acute	7	Nov.
			Malaria	1	Nov.
80TH CONSTR. BATT'N.:	1	10-21 to 11-6	None		
81ST CONSTR. BATT'N.:	2	11- 8 to 11-14	None		
91ST CONSTR. BATT'N.:	27	10-27 to 11-29	Bronchitis, acute	1	Oct.
			Catarrhal fever, acute	4	Nov.
			Fungus infection, skin	1	Nov.
			Tonsillitis, acute	4	Nov.
NAVY # 65:	5	11-12 to 11-29	Catarrhal fever, acute	2	Nov.
73RD CONSTR. BATT.:	20	10-30 to 11-30	None		
NAVY # 91:	4	11-15 to 11-24	Catarrhal fever, acute	1	Nov.
USNH NAVY # 117:	5	10-26 to 12-7	Catarrhal fever, acute	1	Nov.
NAVY # 118:	1	[illegible] to 11-21	None		
NAVY # 120:	4	11-11 to 12-8	Fungus infection, skin	1	Nov.
NAVY # 130:	9	10-30 to 11-21	Dengue	6	Nov.
			Fungus infection, skin	1	Nov.
			Tonsillitis, acute	1	Oct.
NAVY # 131:	68	10-27 to 12-5	Bronchitis, acute	3	Nov.
			Catarrhal fever, acute	3	Nov.
			Fungus infection, skin	2	Nov.
			Malaria	1	Nov.
			Pneumonia, broncho	1	Nov.
			Scarlet Fever	1	Nov.
			Tonsillitis, acute	4	Nov.
NAVY # 145:	4	10-19 to 11-26	Fever, cause undetermined	1	Oct.
NAVY # 150:	2	10-12 to 11-6	Typhoid fever	2	Oct.
NAVY # 156:	38	11-1 to 11-30	Catarrhal fever, acute	2	Nov.
			Fungus infection, skin	2	Nov.
			Malaria	8	Nov.
			Tonsillitis, acute	2	Nov.
NAVY # 162:	15	10-22 to 11-29	None		
NAVY # 214:	157	8-23 to 11-30	Angina, Vincent's	1	Nov.
			Bronchitis, acute	3	1 Oct.
					2 Nov.
			Catarrhal fever, acute	50	4 Oct.
					46 Nov.

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YS-

(A9-10)
Page #4
23 Dec 1943

MEMORANDUM for

Subj: Form Fa Cards Received in Today's Mail as Follows:

Place	No. Form Fa Cards Received	Period of Admission	Diagnosis (Selected titles)	No. Cases	Month
NAVY #214: - cont.			Jaundice, acute inf.	2	1 Oct. 1 Nov.
			Malaria	3	Nov.
			Tonsillitis, acute	3	1 Oct. 2 Nov.
NAVY #150:	30	10-29 to 11-30	Bronchitis, acute	1	Nov.
			Catarrhal, acute, fever	2	Nov.
			Fungus infection, skin	1	Nov.
			Tonsillitis, acute	3	2 Nov. 1 Oct.
NAVY #322:	1	11-23	None		
NAVY #323:	17	8-28 to 11-26	Malaria	5	2 Sept. 1 Oct. 2 Nov.
NAVY #1925:	3	11-29 to 12-2	None		
MAR. AIRCRAFT GROUP #31:	27	10-1 to 10-31	Catarrhal fever, acute	3	Oct.
			Dengue	15	Oct.
			Fungus infection, skin	1	Oct.
MTB BASE #7:	11	11-3 to 11-26	None		
MTB RON #19:	2	11-16 to 11-21	None		
PATROL SERV. UNIT #13:	1	11-18	Dysentery, otherwise unclassified	1	Nov.
ARGUS UNIT #8:	1	11-2	None		
CUB #9:	18	5-28 to 12-9	Dysentery, bacillary	3	Dec.
			Malaria	1	Oct.
			Pneumonia Atypical	1	Nov.
CUB #10:	1	12-4	None		
FAW #10:	16	10-30 to 11-30	Catarrhal fever, acute	1	Nov.
			Tonsillitis, acute	2	1 Oct. 1 Nov.
COMAIRSOPAC:	1	11-24	None		
COMSERFOR:	7	11-17 to 11-26	Catarrhal fever, acute	1	Nov.
COMNAVNAW:	16	10-12 to 11-30	Catarrhal fever, acute	4	Nov.
			Tonsillitis, acute	1	Nov.

NAVMED YS-5
(1943)

WEEKLY SUMMARY OF PATIENTS AND ACCOMMODATIONS IN NAVAL HOSPITALS

Bureau of Medicine and Surgery
Navy Department—Washington, D. C.

Week ended .....

U. S. NAVAL HOSPITAL (C) = *Convalescent Naval Hospitals*	BED CAPACITIES 8' CENTERS		PATIENTS UNDER TREATMENT										DATE OF REPORT
			TOTAL REMAINING		ACTIVE DUTY PERSONNEL			SUPERNUMERARIES					
	EXISTING	AUTHORIZED EXPANSION	Last report	This report	Officers	Enlisted men	Enlisted women	Veterans' Administration	Employees' Compensation Commission	Pensioners	Others including retired officers and men	Total supernumeraries	
Annapolis, Md.													
Asheville, N. C. (C)													
Astoria, Oreg.													
Bainbridge, Md.													
Bethesda, Md.													
Brooklyn, N. Y.													
Charleston, S. C.													
Chelsea, Mass.													
Corona, Calif.													
Corpus Christi, Tex.													
Aiea Heights, T. H.													
Balboa, C. Z.													
Coco Solo, C. Z.													
Pearl Harbor, T. H.													
San Patricio, P. R.													
Trinidad, B. W. I.													
U. S. S. *Relief*													
U. S. S. *Solace*													
Mobile Hospital No. 1													
Mobile Hospital No. 2													
Mobile Hospital No. 3													
Mobile Hospital No. 4													
Mobile Hospital No. 5													
Mobile Hospital No. 6													
Mobile Hospital No. 7													
Mobile Hospital No. 8													
Base Hospital No. 1													
Base Hospital No. 2													
TOTAL													

Portions from entire form (which comprises two pages)

YS-aft
5 Jan 1943

Total Evacuees in U. S. Hospitals
Arranged by districts, for month ended October 31, 1943
(Active duty personnel)

District	Total evacuee load	Number to be returned to unlimited service	Number to be returned for limited service	Number regarded as unfit for future duty
Total	10,990	4,884	2,098	4,008
Potomac River Command	154	72	26	56
Annapolis, Md.	0	0	0	0
Bethesda, Md.	146	68	25	53
Quantico, Va.	8	4	1	3
1st Naval District	168	51	73	44
Chelsea, Mass.	122	25	59	38
Portsmouth, N. H.	16	8	5	3
Newport, R. I.	30	18	9	3
3rd Naval District	672	293	211	168
Brooklyn, N. Y.	276	163	59	54
Harriman, N. Y. (C)	13	7	6	0
St. Albans, N. Y.	329	112	125	92
Sampson, N. Y.	54	11	21	22
4th Naval District	201	104	47	50
Philadelphia, Pa.	201	104	47	50
5th Naval District	236	123	47	66
Bainbridge, Md.	0	0	0	0
New River, N. C.	0	0	0	0
NOB, Norfolk, Va.	171	105	34	32
Portsmouth, Va.	65	18	13	34
6th Naval District	52	34	10	8
Jacksonville, Fla.	31	14	9	8
Asheville, N. C. (C)	16	15	1	0
Charleston, S. C.	0	0	0	0
Parris Island, S. C.	5	5	0	0
7th Naval District	9	1	0	8
Key West, Fla.	9	1	0	8
8th Naval District	380	198	133	49
Pensacola, Fla.	40	23	9	8
New Orleans, La.	130	59	62	9
Norman, Okla.	24	20	0	4
Memphis, Tenn.	134	60	55	19
Corpus Christi, Texas	52	36	7	9
9th Naval District	450	177	150	123
Great Lakes, Ill.	450	177	150	123
11th Naval District	3,986	2,136	358	1,492
Corona, Calif.	668	337	140	191
Long Beach, Calif.*	112	105	7	0
San Diego, Calif.	3,206	1,694	211	1,301
12th Naval District	3,780	1,353	915	1,512
Mare Island, Calif.	542	122	74	346
Oakland, Calif.	2,044	841	501	702
Santa Cruz, Calif. (C)	585	64	201	320
Shoemaker, Calif.	276	157	62	57
Treasure Island, Calif.	7	3	0	4
Yosemite, Calif. (C)	131	12	50	69
Glenwood Springs, Colo.(C)	195	154	27	14
13th Naval District	902	342	128	432
Farragut, Idaho	14	4	6	4
Sun Valley, Idaho* (C)	24	22	0	2
Puget Sound, Wash.	1	1	0	0
Seattle, Wash.	863	315	122	426

* Figures from Aug. 31, 1943 report.

Source: Nav. Med Y-2 & Y-3.

YS-vs
30 Dec 1943

Table II
Weekly Reports of Patients at Naval Dispensaries
for week ending December 15, 1943
(As reported to Bureau M & S)

District	Bed capacities 8-foot centers		Patients under treatment				
	Permanent	Temporary	Total remaining		Active duty personnel		Supernumeraries
			Last report	This report	Officers	Enlisted men	
Grand Total	14,269	4,689	12,010	12,302	957	11,236	110
Potomac River Command	66	44	172	134	35	99	0
NAS, Patuxent River, Md.	60	30	52	57	21	36	0
Mar Baks, Quantico, Va.	6	14	120	77	14	63	0
1st Naval District	2,245	649	1,530	1,895	127	1,730	38
NAS, Brunswick, Me.	89	0	50	51	5	27	19
Nav Section Base, Portland, Me.	88	4	44	53	4	49	0
NavSta, Portland, Me.	34	0	18	27	2	25	0
NY, Boston, Mass.	37	0	29	51	0	51	0
Rec Sta, Boston, Mass.	266	0	79	87	0	70	17
NavTraSchool, Cambridge, Mass.	60	0	24	28	17	11	0
NavTraSchool, Medford, Mass.	40	0	6	7	0	7	0
NRMS, Northampton, Mass.	40	16	24	3	3	0	0
NAS, South Weymouth, Mass.	15	42	7	18	18	0	0
N. V-5 and V-12 Units, Williamstown, Mass.	27	22	12	12	0	12	0
N. V-12 Unit, Hanover, N. H.	69	70	28	131	0	131	0
Nav Prison, Portsmouth, N. H.	56	32	30	32	0	32	0
NavAdvBaseDep, Davisville, R. I.	30	0	27	18	0	18	0
NCTC, Davisville, R. I.	480	0	275	322	10	312	0
NavDisp, Melville, R. I.	47	0	26	21	4	17	0
NavTraSta, Newport, R. I.	508	0	411	457	0	457	0
N. V-12 Unit, Providence, R. I.	50	0	21	16	0	16	0
NAS, Quonset Point, R. I.	40	446	285	423	59	362	2
NavSta, Quoddy Village, Me.	68	0	55	43	1	42	0
NavTorpSta, Newport, R. I.	35	0	21	30	0	30	0
Rec Sta, Bath, Me.	4	0	0	2	0	2	0
NavTraSchool, Brunswick, Me.	0	0	0	3	0	3	0

YS-vs
1-5-44

Table I.

Number of Persons Injured in Aircraft Accidents by Nature of Accident
January to September, 1943, inclusive.
(Excludes Key Letter "K"-Enemy Action) (Cases reported to Bureau M & S).

Nature of Accident	Number by Quarters		
	January March	April June	July September
Total	447	265	54
Heavier than Air (NACA)	320	169	46
Collision in full flight with other aircraft	20	17	7
Power plant failures:			
Cause undetermined	19	17	7
Miscellaneous causes:			
Other causes	1		
Collision in full flight with objects other than aircraft	57	40	4
Power plant failures:			
Fuel system		2	
Engine structure	1		
Cause undetermined	41	26	4
Structural failures:			
Tail-wheel assembly, and skid	1		
Cause undetermined	1		
Miscellaneous causes:			
Weather	3	10	
Darkness	7		
Cause undetermined	3	2	
Spins or stalls following engine failure	15	11	1
Power plant failure:			
Fuel system	3	1	
Propeller and propeller accessories	1		
Engine control system (throttle rod, etc.)	4		
Miscellaneous	1		
Cause undetermined	6	2	1

YS-vs
1-4-44

Table 2

Number of Persons Injured in Aircraft Accidents by Nature of Accident and Kind of Injury, New Admissions only, January to March, 1943. (Cases reported to Bureau M.& S).

Nature of Accident	Injury				
	Number of new admissions	Kind	Anatomic part	Manner of disposition*	
				Duty	Died
Total	447			279	167
Heavier than Air (NACA)	320			156	164
Collision in full flight with other aircraft	20			8	12
	11	Injuries, multiple, extreme			11
	2	Fracture, simple	(1) Skull (1) Tarsus.	2	
	2	Strain, muscular	(1) Neck (1) Back...	2	
	2	Wound, lacerated	(1) Chin (1) Multiple	2	
	1	Burn	Multiple	1	
	1	Drowning			1
	1	Wound, infected	Leg	1	
Collision in full flight with objects other than aircraft ..	57			29	28
	22	Injuries, multiple, extreme			22
	9	Contusion	(5) Multiple (2) Head ..	9	
			(1) Eye (1) Elbow .		
	9	Wound, lacerated	(2) Multiple (2) Leg....		
			(2) Eye (1)Forehead		
			(1) Scalp (1) Knee		
			and scalp	9	
	3	Abrasion	(1) Leg (1)Multiple		
			(1) Scalp	3	
	3	Drowning			3
	2	Fracture, compound	(2) Skull		2
	2	Intracranial injury		1	1
	2	Submersion, nonfatal		2	

YS-vs
1-1-44

Table 3.
Number of Persons Injured in Aircraft Accidents Arranged by Diagnosis,
New Admissions only, January to March, 1943, inclusive.
(Cases reported to Bureau M & S)

Nature of injury	Number of new admissions	Anatomic part	Manner of Disposition *	
			Duty	Died
Total	447		284	162
Abrasion	3	Face	3	
	1	Forehead	1	
	1	Knee	1	
	1	Leg	1	
	7	Multiple	7	
	3	Scalp	3	
Avulsion	1	Toe nail	1	
Burn	1	Face	1	
	4	Multiple	4	
	1	Neck	1	
	2	Face and hand	2	
Contusion	1	Abdomen	1	
	1	Ankle	1	
	1	Arm	1	
	3	Back	3	
	2	Chest	2	
	1	Elbow	1	
	3	Eye	3	
	2	Face	2	
	1	Foot	1	
	2	Forehead	2	
	1	Hand	1	
	5	Head	5	
	1	Hip	1	
	1	Inguinal	1	
	1	Kidney	1	
	1	Knee	1	
	2	Leg	2	

YS-vs
21 Oct 1943

Table I
ADMISSIONS FOR VENEREAL DISEASES - BY PLACE OF EXPOSURE
August, 1943

RESTRICTED

Ten cities showing highest total in Continental U. S., listed in descending order of frequency.

Place of Exposure	All Gonorrhea	All Syphilis	All Chancroid	All Others	Total
All Places					
Ten leading cities listed.					
All other cities					
Unknown					
Foreign					

Note:
No preprint copies.
Prepared monthly.

YS-VS
21 Oct 1943

RESTRICTED

Table I-A
ADMISSIONS FOR VENEREAL DISEASE - BY PLACE OF EXPOSURE
August, 1943

Ten states showing highest total in Continental U. S., listed in descending order of frequency

Place of Exposure	All Gonorrhea	All Syphilis	All Chancroid	All Others	Total
All Places					
Ten states listed.					
All other states					
Unknown					
Foreign					

Note:
No preprint copies.
Prepared monthly.

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21 Oct 1943

Table I

RESTRICTED

ADMISSIONS FOR VENEREAL DISEASE -BY PLACE OF EXPOSURE
January - August, 1943 -Combined

Twenty cities showing highest total in Continental U. S., listed in descending order of frequency.

Place of Exposure	All Gonorrhea	All Syphilis	All Chancroid	All Others	Total
All Places					
Twenty leading cities listed.					
All other cities					
Unknown					
Foreign					

Note:
No preprint copies.
Prepared monthly.

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21 Oct 1943

Table I-A

RESTRICTED

ADMISSIONS FOR VENEREAL DISEASE - BY PLACE OF EXPOSURE
January - August, 1943 - Combined

Twenty states showing highest total in Continental U. S., listed in descending order of frequency

Place of Exposure	All Gonorrhea	All Syphilis	All Chancroid	All Others	Total
All Places					
Twenty states listed.					
All other states					
Unknown					
Foreign					

Note:
No preprint copies.
Prepared monthly.

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21 Oct 1943

Table II
NEW ADMISSIONS FOR VENEREAL DISEASES
BY PLACE OF EXPOSURE: SHIP OR STATION REPORTING
August, 1943

RESTRICTED

Place of Exposure	Ship or Station	All Gonorrhea	All Syphilis	All Chancroid	All Others	TOTAL
TOTAL						
City and State listed.	Ship or Station in each place of exposure.					

Note:
This report consists of nine (9) pages.
No preprint copies.
Prepared monthly.

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21 Oct 1943

Table II
NEW ADMISSIONS FOR VENEREAL DISEASES
BY PLACE OF EXPOSURE: SHIP OR STATION REPORTING
January - August, 1943 - Combined

RESTRICTED

Place of Exposure	Ship or Station	All Gonorrhea	All Syphilis	All Chancroid	All Others	TOTAL
TOTAL						
City and State listed.	Ship or Station in each place of exposure.					

Note:
This report consists of thirty-two (32) pages.
No preprint copies.
Prepared monthly.

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21 Oct 1943

RESTRICTED

Table III
VENEREAL DISEASE ADMISSIONS
ARRANGED BY PLACE OF EXPOSURE
April, May, June, 1943 - Combined

Activity Reporting	ADMISSIONS		PLACE OF EXPOSURE					
			Location given by State and City and Country		Location given by State or Country only		Location given as Unknown	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total		100.00						
Stations		100.00						
Ships		100.00						
Foreign Stations		100.00						
Expeditions		100.00						

Note:
This report prepared quarterly.
No preprint copies.

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Table III-A
VENEREAL DISEASE ADMISSIONS
ARRANGED BY PLACE OF EXPOSURE
April, May, June, 1943 - Combined

Activity Reporting	ADMISSIONS		PLACE OF EXPOSURE					
			Location given by State and City and Country		Location given by State or Country only		Location given as Unknown	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total		100.00		100.00		100.00		100.00
Stations								
Ships								
Foreign Stations								
Expeditions								

Note:
This report prepared quarterly.
No preprint copies.

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21 Oct 1943

VENEREAL DISEASE INCIDENCE - BY PLACE OF EXPOSURE
(10th Naval District and Brazil)
August, 1943

RESTRICTED

Place of Exposure	Number of cases						
	Arranged by Place of admission			Arranged by diagnoses			
	Ships	Shore	Total	Gonorrhea	Syphilis	Chancroid	Others
Total for 10th Nav. District and Brazil							
10th Naval District listed by country and leading cities. This report consists of two pages.							

Note:
No preprint copies.
Prepared monthly.

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21 Oct 1943

VENEREAL DISEASE INCIDENCE - BY PLACE OF EXPOSURE
(10th Naval District and Brazil)
January - August, 1943 - Cumulative

RESTRICTED

Place of Exposure	Number of cases						
	Arranged by Place of admission			Arranged by diagnoses			
	Ships	Shore	Total	Gonorrhea	Syphilis	Chancroid	Others
Total for 10th Nav District and Brazil							
10th Naval District listed by country and leading cities. This report consists of two pages.							

Note:
No preprint copies.
Prepared monthly.

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20 Oct 1943

Table I
MENTAL DISEASES
Arranged by Manner of Taking Up and Disposition
Month of August, 1943

August Tab.

For:

(This report includes only cases which have been processed to date.)

Diagnosis	Total	Taken up as:					Disposed of as:							
		Rem	EPTE	A	ACD	Ra	D	DD	IS	R	T	Conv L	Cont	C
Total														
Amnesia														
Const. psychopathic inferiority without psychosis														
Const. psychopathic state, emotional instability														
Const. psychopathic state, inadequate personality														
Const. psychopathic state, paranoid personality														
Const. psychopathic state, schizoid personality														
Const. psychopathic state, sexual psychopathy														
Dementia paralytica														
Dementia praecox														
Hypochondriasis														
Melancholia involutional														
Mental deficiency														
Nostalgia														
Paranoia														
Paranoid state														
Psychoneurosis, anxiety neurosis														
Psychoneurosis, compulsion neurosis														
Psychoneurosis, hysteria														
Psychoneurosis, mixed type														
Psychoneurosis, neurasthenia														
Psychoneurosis, occupational														
Psychoneurosis, psychasthenia														
Psychoneurosis, situational														
Psychoneurosis, traumatic														
Psychoneurosis, unclassified														
Psychoneurosis, war neurosis														
Psychosis, intoxication, alcoholic														
Psychosis, manic depressive														
Psychosis, unclassified														
Psychosis with psychopathic personality														
Sexual perversion														
Simple adult maladjustment														
Somnambulism														
All ill-defined diseases of this class:														
Mental depression														
Reactive depression														
Psychoneurosis, claustrophobia														

Note:
No preprint copies.
Prepared monthly.

YS-vs
20 Oct 1943

For:

Table I-A
MENTAL DISEASES
Arranged by Manner of Taking Up and Disposition
January - August, 1943 - Cumulative

August Tab.

(This report includes only cases which have been processed to date.)

Diagnosis	Total	Taken up as:					Disposed of as:							
		Rem	EPTE	A	ACD	Ra	D	DD	IS	R	T	Conv L	Cont	C
Total														
Amnesia														
Const. psychopathic inferiority without psychosis														
Const. psychopathic state, criminalism														
Const. psychopathic state, emotional instability														
Const. psychopathic state, inadequate personality														
Const. psychopathic state, paranoid personality														
Const. psychopathic state, pathological liar														
Const. psychopathic state, schizoid personality														
Const. psychopathic state, sexual psychopathy														
Dementia paralytica														
Dementia praecox														
Dementia pugilistica														
Hypochondriasis														
Masturbation														
Melancholia involutional														
Mental deficiency														
Nostalgia														
Paranoia														
Paranoid state														
Psychoneurosis, anxiety neurosis														
Psychoneurosis, compulsion neurosis														
Psychoneurosis, hysteria														
Psychoneurosis, mixed type														
Psychoneurosis, neurasthenia														
Psychoneurosis, occupational														
Psychoneurosis, psychasthenia														
Psychoneurosis, situational														
Psychoneurosis, traumatic														
Psychoneurosis, unclassified														
Psychoneurosis, war neurosis														
Psychosis, epileptic														
Psychosis, exhaustive														
Psychosis, intoxication, alcoholic														
Psychosis, intoxication, drug														
Psychosis, intoxication, unclassified														
Psychosis, manic depressive														
Psychosis, senile														
Psychosis, traumatic														
Psychosis, unclassified														
Psychosis with infectious disease														
Psychosis with organic brain disease.														
Psychosis with other disabilities														
Psychosis with psychopathic personality														
Sexual perversion														
Simple adult maladjustment														
Somnambulism														

Table I-A
MENTAL DISEASES
Arranged by Manner of Taking Up and Disposition
January - August, 1943 - Cumulative
(Continued)

Diagnosis	Total	Taken up as:					Disposed of as:							
		Rem	EPTE	A	ACD	Ra	D	DD	IS	R	T	Conv L	Cont	C
All ill-defined diseases of this class:														
Const. psychopathic state, drug addiction														
Const. psychopathic state with psychosis														
Convulsive disorder														
Convulsive state														
Depression recurrent														
Encephalopathy														
Fatigue, combat														
Mental depression														
Mental depression, reactionary type														
Nervous exhaustion														
Post encephalitic personality disorder														
Post traumatic syndrome														
Prison psychosis														
Psychoneurosis, claustrophobia														
Psychoneurosis, reactive depression														
Psychosis, reactive depressive														
Reading defect														

Note:
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20 Oct 1943

Table II
MENTAL DISEASES
New Admissions Only - Officers and Enlisted Men
Month of August, 1943

August Tab.

For:

(This report includes only cases which have been processed to date.)

Diagnosis	Total	Personnel							
		Navy			Marine			Others	
		Total	Off.	Men	Total	Off.	Men	Total	
Total									
Amnesia									
Const. psychopathic inferiority without psychosis									
Const. psychopathic state, emotional instability									
Const. psychopathic state, inadequate personality									
Const. psychopathic state, sexual psychopathy									
Dementia praecox									
Mental deficiency									
Nostalgia									
Psychoneurosis, anxiety neurosis .									
Psychoneurosis, compulsion neurosis									
Psychoneurosis, hysteria									
Psychoneurosis, mixed type									
Psychoneurosis, neurasthenia									
Psychoneurosis, occupational									
Psychoneurosis, psychasthenia									
Psychoneurosis, situational									
Psychoneurosis, traumatic									
Psychoneurosis, unclassified									
Psychoneurosis, war neurosis									
Psychosis, manic depressive									
Psychosis, unclassified									
Sexual perversion									
Somnambulism									
All illdefined diseases of this class:									
Mental depression									

Note:
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Prepared monthly.

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20 Oct 1943

Table II-A
MENTAL DISEASES
New Admissions Only - Officers and Enlisted Men
For: January - August, 1943 - Cumulative

August Tab.

(This report includes only cases that have been processed to date.)

Diagnosis	Total	Personnel							
		Navy			Marine			Others	
		Total	Off.	Men	Total	Off.	Men	Total	All
Total									
New Admissions only listed by diagnoses as in Table II. This report consists of two pages.									

Note:
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Prepared monthly.

YS-vs
20 Oct 1943

For:

Table III
MENTAL DISEASES
Arranged by Selected Groups Showing Manner of Taking Up and Disposition
Month of August, 1943

August Tab.

(This report includes only cases which have been processed to date.)

Diagnosis	Total	Taken up as:					Disposed of as:							
		Rem	FPTE	A	ACD	Ra	D	DD	IS	R	T	Conv L	Cont	C
All diagnoses														
Const. psychopathic state, all														
Const. psychopathic inferiority without psychosis														
Const. psychopathic state, emotional instability														
Const. psychopathic state, inadequate personality														
Const. psychopathic state, paranoid personality														
Const. psychopathic state, schizoid personality														
Const. psychopathic state, sexual psychopathy														
Psychoses, all														
Dementia paralytica														
Dementia praecox														
Melancholia involutional														
Paranoia														
Psychosis, intoxication, alcoholic														
Psychosis, manic depressive														
Psychosis, unclassified														
Psychosis with psychopathic personality														
Psychoneuroses, all														
Hypochondriasis														
Nostalgia														
Paranoid state														
Psychoneurosis, anxiety neurosis														
Psychoneurosis, compulsion neurosis....														
Psychoneurosis, hysteria														
Psychoneurosis, mixed type														
Psychoneurosis, neurasthenia														
Psychoneurosis, occupational														
Psychoneurosis, psychasthenia														
Psychoneurosis, situational														
Psychoneurosis, traumatic														
Psychoneurosis, unclassified														
Simple adult maladjustment														
Somnambulism														
War neuroses, all														
Psychoneurosis, war neurosis														
All other mental														
Amnesia														
Mental deficiency														
Sexual perversion														
Other diseases of this class:														
Mental depression														
Reactive depression														
Psychoneurosis, claustrophobia														

Note:
No preprint copies.
Prepared monthly.

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20 Oct 1943

Table III-A
MENTAL DISEASES
Arranged by Selected Groups Showing Manner of Taking Up and Disposition
For: January - August, 1943 - Cumulative

August Tab.

(This report includes only cases which have been processed to date.)

Diagnosis	Total	Taken up as:					Disposed of as:							
		Rem	EPTE	A	ACD	Ra	D	DD	IS	R	T	Conv L	Cont	C
All diagnoses														
Selected diagnoses grouped as in Table III. This report consists of three pages.														

Note:
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Prepared monthly.

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20 Oct 1943

TABLE IV

August Tab.

New Admissions Only, Arranged by Age Groups - Officers and Enlisted Men
Month of August, 1943

For:

(This report includes only cases which have been processed to date.)

Age Group	Total	Personnel							
		Navy			Marine			Others	
		Total	Off.	Men	Total	Off.	Men	Total	
Total									
16 - 19									
20 - 24									
25 - 29									
30 - 34									
35 - 39									
40 - 44									
45 - 49									
50 - 54									
55 - 59									
60 - 64									
65 and over									

Note:
No preprint copies.
Prepared monthly.

Source: Fa cards;
Vital Statistics.

YS-vs
20 Oct 1943

TABLE IV-A

August Tab.

New Admissions Only, Arranged by Age Groups - Officers and Enlisted Men
January - August, 1943 - Cumulative

For:

(This report includes only cases which have been processed to date.)

Age Group	Total	Personnel							
		Navy			Marine			Others	
		Total	Off.	Men	Total	Off.	Men	Total	
Total									
16 - 19									
20 - 24									
25 - 29									
30 - 34									
35 - 39									
40 - 44									
45 - 49									
50 - 54									
55 - 59									
60 - 64									
65 and over									

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20 Oct 1943

Table V
New Admissions Arranged in Selected Groupings
August, 1943

August Tab.

For:

(This report includes only cases which have been processed to date.)

Ship or Station	Total	Psycho-neurosis	Const. psychopathic inferiority w.o.psychosis	Const. Psychopathic state	Dementia praecox	Psychosis, intoxication alcoholic	Psycho-neurosis uncl'fied	Psychosis, manic de-pressive	Misc.
Total									
Battleship									
Heavy cruiser									
Light cruiser									
Aircraft carrier									
Destroyer									
Submarine									
All other ships									
Stations, Conti-nental, U. S. A.									
Stations, Foreign									

Note:
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Prepared monthly.

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20 Oct 1943

Table V-A
New Admissions Arranged in Selected Groupings
January - August, 1943 - Cumulative

August Tab.

For:

(This report includes only cases which have been processed to date.)

Ship or Station	Total	Psycho-neurosis	Const. psychopathic inferiority w.o.psychosis	Const. Psychopathic state	Dementia praecox	Psychosis, intoxication alcoholic	Psycho-neurosis uncl'fied	Psychosis, manic de-pressive	Misc.
Total									
Battleship									
Heavy cruiser									
Light cruiser									
Aircraft carrier									
Destroyer									
Submarine									
All other ships									
Stations, Conti-nental, U. S. A.									
Stations, Foreign									

Note:
No preprint copies.
Prepared monthly.

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21 Oct 1943

Table I
Number of recruits discharged by reason of inaptitude for selected stations for week ending as indicated.

August 1943

Station	August 7, 1943			August 14, 1943			August 21, 1943			August 28, 1943		
	Number Examined by Psychiatrist	Number Discharged	Rate Discharged per 1,000 Examined	Number Examined by Psychiatrist	Number Discharged	Rate Discharged per 1,000 Examined	Number Examined by Psychiatrist	Number Discharged	Rate Discharged per 1,000 Examined	Number Examined by Psychiatrist	Number Discharged	Rate Discharged per 1,000 Examined
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
All Stations												
Great Lakes, Ill., N. T. S..												
Newport, R. I., N. T. S.....												
San Diego, Calif., N. T. S..												
Bainbridge, Md., N. T. S....												
Farragut, Idaho, N. T. S....												
Sampson, N. Y., N. T. S.....												
Williamsburg, Va., N.C.T.C..												
Parris Island, S. C.,M.R.D..												
San Diego, Calif., M.C.B....												

Note:
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Prepared monthly.

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21 Oct 1943

August 1943

Table I-A
Monthly Summary of Table I

Stations	August 7, 1943 - August 28, 1943		
	Examined by Psychiatrist	Discharged	Rate Discharged per 1,000 Examined
(1)	(2)	(3)	(4)
All Stations			
Stations listed as in Table I			

Note:
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Prepared monthly.

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21 Oct 1943

Table II

August 1943

Number and Percent of Psychiatric discharges by condition or diagnosis for selected Naval Training Stations, August 7, 1943 to August 28, 1943.
(from weekly reports)

Condition or Diagnosis	All Stations		Great Lakes N.T.S.		Newport N.T.S.		San Diego N.T.S.		Bain-bridge N.T.S.		Farragut N.T.S.		Sampson N.T.S.		Williams-burg N.C.T.C.		Parris Island M.R.D.		San Diego M.C.B.	
(1)	(2)		(3)		(4)		(5)		(6)		(7)		(8)		(9)		(10)		(11)	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
All Diagnoses		100.0		100.0		100.0		100.0		100.0		100.0		100.0		100.0		100.0		100.0
Const. psychopathic state (all)																				
Mental deficiency																				
Psychoneurosis (all)																				
Enuresis																				
Epilepsy																				
Somnambulism																				
Post traumatic syndrome																				
Migraine																				
Chr. pers. disorder schizoid																				
Illiteracy																				
Alcoholism, chronic																				
Const. psycho. inferiority without psychosis																				
Post traumatic pers. disorder																				
Psychosis																				
All other																				

Note:
No preprint copies.
Prepared monthly.

YS-vs
21 Oct 1943

Table II-a

August 1943

Psychiatric discharges ranked by condition or diagnosis for selected Naval Training Stations; August 7, 1943 to August 29, 1943.
(from weekly reports)

Condition or Diagnosis	All Stations	Great Lakes N.T.S.	Newport N.T.S.	San Diego N.T.S.	Bain-bridge N.T.S.	Farragut N.T.S.	Sampson N.T.S.	Williams-burg N.C.T.C.	Parris Island M.R.D.	San Diego M.C.B.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Condition or Diagnosis listed as in Table II.										

Note:
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Prepared monthly.

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21 Oct 1943

Table III

August 1943

Discharge rates per 1,000 recruits examined for various psychiatric conditions or diagnoses at selected Naval Training Stations, August 7, 1943 to August 28, 1943.
(from weekly reports)

Condition or Diagnosis	All Stations	Great Lakes N.T.S.	Newport N.T.S.	San Diego N.T.S.	Bain-bridge N.T.S.	Farragut N.T.S.	Sampson N.T.S.	Williams-burg N.C.T.C.	Parris Island M.R.D.	San Diego M.C.B.
Number Recruits Examined										
All Diagnoses										
Condition or Diagnosis listed as in Table II.										

Note:
No preprint copies.
Prepared monthly.

YS-aft

Discharges for physical disabilities
Personnel U. S. Navy and Marine Corps
Arranged by class and by month-calendar year 1943. (War casualties excluded)

Class	Total	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct.
Total	39,769	3,628	3,421	3,715	3,711	3,618	3,747	4,150	5,150	5,074	3,686
Diseases of blood	55	1	4	1	9	8	5	6	8	9	4
Diseases of circulatory system	3,180	318	273	336	359	279	307	315	358	303	242
Diseases of digestive system	2,461	243	240	249	234	193	241	239	295	295	232
Diseases of ductless gland and spleen	376	33	39	43	39	34	31	34	50	51	22
Diseases of nose, ear and throat	2,086	140	122	180	206	225	248	219	286	266	194
Diseases of eye and adnexa	1,960	138	124	186	192	197	243	236	283	246	115
Diseases of genito-urinary system (nonvenereal)	1,262	125	125	135	136	114	84	110	125	205	103
Communicable diseases transmissible by oral and nasal discharges	60	0	0	2	10	4	5	10	13	7	9
Communicable diseases transmissible by insects and other arthropods	57	1	0	2	6	10	21	4	2	4	7
Tuberculosis, all forms	1,896	341	296	187	199	187	174	145	136	115	116
Venereal Diseases	748	43	36	47	57	44	44	69	179	157	72
Other diseases of the infective type	851	12	20	26	43	52	81	126	229	193	69
Diseases of lymphatic system	38	4	1	5	2	0	5	3	9	5	4
Diseases of mind	8,571	432	523	839	638	755	842	1,109	1,160	1,138	1,135
Diseases of motor system	5,633	716	697	517	544	503	465	478	624	632	457
Diseases of nervous system	2,095	188	183	203	186	177	199	223	267	270	199
Diseases of respiratory system	2,225	224	194	167	169	171	202	241	303	344	210
Diseases of skin,hair and nails.	446	43	45	44	49	40	40	27	57	56	45
Herniae	519	105	53	55	56	33	38	57	51	47	24
Miscellaneous diseases and conditions	2,569	252	213	225	242	274	218	269	331	326	219
Parasitic diseases	24	1	2	5	0	2	2	4	0	5	3
Tumors	321	41	31	27	33	34	32	23	36	41	23
Female diseases and conditions	55	0	0	5	1	5	11	4	6	11	12
Injuries	1,926	177	142	173	217	195	199	192	206	255	170
Poisonings	3	0	0	0	0	1	1	0	1	0	0
Dental diseases and conditions	352	50	58	56	84	81	9	7	4	3	0

(Form M) Source: Form Fa Cards-Sec. Vital Statistics

FREQUENCY AND SEVERITY OF INDUSTRIAL DISABILITIES
CIVILIAN PERSONNEL, U. S. NAVY

AVERAGE NUMBER ON ROLLS	NUMBER OF HOURS WORKED	TOTAL NUMBER OF ACCIDENTS	ACCIDENTS PER MILLION HOURS WORKED	NUMBER LOST TIME ACCIDENTS	L. T. A. PER MILLION HOURS WORKED	NUMBER DAYS LOST	DAYS LOST PER 1000 HRS. WORKED
63421	12450084			26	2.09	130	0.01
11695	2322119			1	0.43	3	0.001
11845	2428647			3	1.24	308	0.13
9967	2023942			12	5.93	83	0.04
104	23453						
2618	556882			8	14.37	63	0.11
476	94883						
2321	458121			1	2.18	1	0.002
1031	193775						
2776	599300			4	6.67	17	0.03
157	31581						
956	201601			1	4.96	7	0.03
356	72909						
4769	982273			6	6.11	13	0.01
124	23124						
489	98558						

prepared each month for both Continental and Foreign Stations:

t -- by station, by occupation

hly Report -- by occupation

port -- by station, by occupation

lative Report -- by occupation

CASUALTY REPORTS

The Vital Statistics Section of Preventive Medicine Division prepares confidential casualty reports, cumulative as indicated by the following headings:

TABLE I -- Entire Force: Casualties, Navy and Marine Corps, classified personnel; number and percent for all dispositions. December 7, 1941 to December 31, 1943. (Cases reported to Bureau M & S).

TABLE II -- Entire Force: Casualties, Navy and Marine Corps, classified personnel; number and percent of all dispositions. December 7, 1941 to December 31, 1943. (Cases reported to Bureau M & S).

TABLE III -- Casualties, Navy and Marine Corps, classified personnel; number and percent by total wounded and killed in action December 7, 1941 to December 31, 1943. (Cases reported to Bureau M & S).

TABLE IV -- Casualties, Navy and Marine Corps, classified personnel; number and percent by types of disposition. December 7, 1941 to December 31, 1943. (Cases reported to Bureau M & S).

TABLE V -- Casualties, Navy and Marine Corps, classified personnel; number and percent wounded. December 7, 1941 to December 31, 1943. (Cases reported to Bureau M & S).

TABLE VI -- Casualties, Navy and Marine Corps, classified personnel; Admissions by diagnosis for all wounded living; by order of size, grouped. December 7, 1941 to December 31, 1943. (Cases reported to Bureau M & S).

TABLE VI-A - Casualties, Navy and Marine Corps, classified personnel; Admissions by diagnosis for all wounded living; by order of size, grouped. December 7, 1941 to December 31, 1943. (Cases reported to Bureau M & S).

TABLE VII -- Casualties, Navy and Marine Corps; Cases: New Admissions and Sequellae by Diagnosis for all Wounded living; arranged by order of size. December 7, 1941 to December 31, 1943. (Cases reported to Bureau M & S).

SUMMARY BY YEAR -- Summary of Casualties -- Navy and Marine Corps. December 7, 1941 through December 31, 1943. (Cases processed in Bureau to date).

SUMMARY -- Entire Force: Casualties, Navy and Marine Corps, classified personnel; number and percent for all dispositions, showing comparison of Medical Department Personnel. December 7, 1941 to December 31, 1943. (Cases reported to Bureau M & S).

APPENDIX VI

Suggested Revision of Fa Card and Smooth F

APPENDIX VI

Suggested Revision of F card and Smooth F.

The basic reports of illness and disability in the Navy are the Individual Statistical Report of Patient, Form F card, and the smooth Form F, Abstract of Patients. Since both reports are based on disposition rather than admission to the sick list, they fail to meet many of the needs of the Bureau of Medicine and Surgery for statistical facts concerning current illness. Data on admissions are essential in the control of many disease situations and the provision of medical care for the Navy's sick and injured. The present system of F cards has a further defect in that it requires the use of multiple cards with subsequent matching in order to secure a continuous history of a case. Discharge records are important in permitting correct diagnosis and in furnishing data on total number of days of illness or disability.

The Committee devoted considerable time to the study of these reports and the problems arising from their use. In Recommendation #5 of the report the Committee recommends the adoption of a simpler system of reporting of individual cases of disability which would eliminate the necessity for multiple cards. In doing this, the Committee recognizes that a definitive recommendation as to final solution cannot be made except by those completely familiar with all phases of naval operations. Exhibit A of this Appendix presents a suggested revision for the Individual Statistical Report of Patient. It represents a single record which would be opened in triplicate upon admission of patient to the sick list. These copies would be used as follows:

1. Ribbon copy would follow the patient throughout illness and be sent

to the Bureau of Medicine and Surgery upon final disposition.

2. First carbon would also follow the patient throughout illness and be retained by the medical activity making final disposition.

3. Second carbon copy would remain with the medical activity by which the case was taken up on the sick list originally.

4. Intermediate medical activities would be instructed to make such extra copies as might be necessary for their files.

In order that the present instructions for filling out of F cards would require only a minimum of revision, the proposed record preserves, as far as possible, the general format of the present F cards. It is suggested that its size be similar to that of the pages of the health record which would facilitate its transfer during the course of the illness.

In Recommendation #12, the Committee recommends that the smooth F be changed from a report based on disposition to one based on admissions, thus filling an important gap in the present system of morbidity reporting. Such a revision is presented as Exhibit B of this Appendix. In form, there would be little change in the actual report but the source of its contents would be entirely different. In the first place, the statistical summary of the report would be based on admissions and dispositions during the period of the report. The number of sick days would be the total number of sick days for the month. Finally the revised smooth F would furnish a list of all admissions during the month, and if desired, of dispositions as well. Thus, if a case is admitted and disposed of during the same month, only one entry need be made. The advantages to be gained by this revision are many and have been indicated in the recommendation itself.

EXHIBIT A

NAVMED FA
Rev.

INDIVIDUAL STATISTICAL REPORT OF PATIENT

1	NAME (IN FULL, SURNAME FIRST)			SERVICE NO.	
2	RACE	DATE OF BIRTH	PLACE OF BIRTH		
3	RANK OR RATE	AVIATION	LENGTH OF SERVICE		
4	PATIENT ATTACHED TO				
5	LOCATION				
6	DIAGNOSIS (NAVY NOMENCLATURE)				
7	TAKEN UP AS	DATE	DISPO-SITION	DATE	
8	EPTE	KEY LTR	SPECIALTY LTR	SICK DAYS	
9	TAKEN UP BY (SHIP OR STATION)				
10	DIAGNOSIS (NAVY NOMENCLATURE)				
11	TAKEN UP AS	DATE	DISPO-SITION	DATE	
12	EPTE	KEY LTR	SPECIALTY LTR	SICK DAYS	
13	TAKEN UP BY (SHIP OR STATION)				
14	DIAGNOSIS (NAVY NOMENCLATURE)				
15	TAKEN UP AS	DATE	DISPO-SITION	DATE	
16	EPTE	KEY LTR	SPECIALTY LTR	SICK DAYS	
17	TAKEN UP BY (SHIP OR STATION)				

18		SUMMARY FINAL DIAGNOSIS	SICK DAYS
19	INITIAL DISA-BILITY		
20	COMPLICA-TION OR SEQUALAE		
21	INTERCUR-RENT DISEASES		
22	CONVALESCENT LEAVE		

(OVER)

23	DIAGNOSIS (NAVY NOMENCLATURE)				
24	TAKEN UP AS	DATE	DISPO-SITION	DATE	
25	EPTE	KEY LTR	SPECIALTY LTR	SICK DAYS	
26	TAKEN UP BY (SHIP OR STATION)				
27	DIAGNOSIS (NAVY NOMENCLATURE)				
28	TAKEN UP AS	DATE	DISPO-SITION	DATE	
29	EPTE	KEY LTR	SPECIALTY LTR	SICK DAYS	
30	TAKEN UP BY (SHIP OR STATION)				
31	DIAGNOSIS (NAVY NOMENCLATURE)				
32	TAKEN UP AS	DATE	DISPO-SITION	DATE	
33	EPTE	KEY LTR	SPECIALTY LTR	SICK DAYS	
34	TAKEN UP BY (SHIP OR STATION)				

REMARKS

INSTRUCTIONS

RIBBON COPY — FOR BUREAU OF MEDICINE & SURGERY.
1ST CARBON COPY - RETAIN BY ACTIVITY MAKING FINAL DISPOSITION.
2ND CARBON COPY - RETAIN BY ACTIVITY ADMITTING PATIENT TO SICK LIST.

NOTE: INTERMEDIATE ACTIVITIES WILL MAKE ADDITIONAL COPIES AS REQUIRED FOR THEIR FILES.

NAVMED - FORM F
Rev. 1944

EXHIBIT B

Sheet No. _____

ABSTRACT OF PATIENTS

U.S. _____
(NAME AND LOCATION OF SHIP OR STATION)

DATE _____
(FOR MONTH OR PERIOD ENDING AT MIDNIGHT OF ABOVE DATE)

FORWARDED _____ SUBMITTED _____

_____ U.S. _____ _____ (MC), U.S. Navy

COMMISSIONED _____ OUT OF COMMISSION _____ AVERAGE STRENGTH _____

SUMMARY OF PATIENTS FOR PERIOD	NUMBER OF PATIENTS ON SICK LIST AT BEGINNING OF PERIOD	ADMISSIONS TO SICK LIST DURING PERIOD			DISPOSITIONS DURING PERIOD						NUMBER OF PATIENTS REMAINING ON SICK LIST	TOTAL SICK DAYS DURING PERIOD
		NEW ADMISSIONS	READMISSIONS	TOTAL FOR PERIOD	DUTY	DIED	IS	TRANSFERRED	OTHER	TOTAL FOR PERIOD		
DISEASES												
INJURIES												
GRAND TOTAL												

TAKEN UP AS	NAME (IN FULL, SURNAME FIRST)	SERVICE NUMBER	RANK OR RATE	DIAGNOSIS (KEY AND SPECIALTY LETTERS FOR INJURIES)	DISPOSITION	SICK DAYS DURING PERIOD

NOTE - TO BE ADDED TO LIST OF INSTRUCTIONS - " PATIENTS TO BE REPORTED UNDER HEADINGS :
A. ABSTRACT OF PATIENTS ADMITTED DURING PERIOD.
B ABSTRACT OF PATIENTS DISPOSED OF DURING PERIOD.

APPENDIX VII

Suggested Organization Chart

for Statistical Activity

PROPOSED FUNCTIONAL ORGANIZATION of the MEDICAL STATISTICS ACTIVITIES of the BUREAU of MEDICINE AND SURGERY, U.S. NAVY